American Aviation

The Independent Voice of American Aeronautics

DECEMBER 15, 1945

Long Range Benefit

PARIS—Between now and next April the European Division of the Army's Air Transport Command will disappear from most of the eighteen countries into which it was operating on December 1 of this year.

Before the curtain draws upon a good organization which contributed much to the winning of the war in Europe and to U. S. aviation in general, a commendatory word is warranted. For ATC's European Division has occupied an unique position in world-wide military air transport operations.

Fortnightly Review

From the standpoint of efficiency, utilization, performance and safety, not much can be added to what has already been said many times about the high standards of wartime military air transport throughout the world. In point of passenger miles, in fact, the European Division was below many other similar units.

But the European unit cannot be measured alone in terms of operating records. Not only has it been a transport service, but it has been, as well, a State Department, a CAB, a CAA and, in fact, almost a cross-section of government itself. U. S. aviation owes it a debt of gratitude.

We doubt very much that Lieut. Gen. Harold George ever envisioned the sort of problems some of his divisions would face when he assumed the tremendous job of organizing and directing the world-wide ATC at the beginning of the war. And we doubt, also, that Brigadier General Earl Hoag or his successor as commanding officer of the European Division, Major General Robert Webster, anticipated these problems either when they were assigned to the Division.

Over and beyond the primary job of providing air transport for the armed forces fighting the war, ATC had to develop a communications network in the jigsaw puzzle that comprises Europe. When the war ended its job was just getting fully under way. With ground transportation almost entirely disrupted, it was up to ATC to provide a national interest communications service to virtually every country in Europe—neutral, Allied and occupied.

Thus ATC in Europe became an instrumentality of the government itself, a holding force and a diplomatic entity which extended far beyond the mere transportation of troops and military cargo. Without ATC it would not have been possible for the U. S. flag carriers to get started adequately in years. Without ATC (and

(Turn to page 6)

New President of AIA

La Motte T. Cohu, general manager and chairman of the Board of Northrop Aircraft, Inc., has been elected president of the Aircraft Industries Association succeeding Eugene E. Wilson, who becomes chairman of the board of governors of AIA. (Story on page 72).

In This Issue

25c

Another New Bridge for Manhattan . . .

New York's first great general traffic bridge still in use today, is the Brooklyn Bridge, built in 1883. Its last, the Bronx-Whitestone, was finished in 1939. The newest of its "underground bridges", the Brooklyn-Battery Tunnel, is now under construction . . . necessitating the razing of such famed landmarks as the Aquarium—pictured at the foot of Battery Park.

But soon another new bridge, a different kind in still another dimension—may serve Manhattan and Metropolitan New York. For the *helicopter* is truly a bridge—time-saving and useful.

Used for shuttle-service from airports in the New York area, and from pick-up points in nearby cities and suburbs to transfer points in Manhattan, it can bridge crowded miles in minutes. For even from LaGuardia Airport—where unusually fine transportation conditions exist—it can shorten the 35 minute period now necessary for surface transportation.

In the hands of professional pilots, helicopter shuttle-service will be as safe as it is swift. For stoplights, street intersections, and heavy traffic will be eliminated—shaving time schedules to save as much as a half-hour at either end of your trip—in most of America's cities.

At McDonnell, though war has ended, we are continuing the production of advanced types of aircraft to serve our Armed Forces in helping to maintain peace and order in the world.

But in addition, we are ready *right now*, to sit down with you to work out specifications for the adaptation of our helicopter to your particular commercial needs . . . a type of helicopter which can be utilized successfully for almost any type of utilitarian service . . . almost anywhere in the world.

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Manufacturers of AIRPLANES and HELICOPTERS ★ SAINT LOUIS, MISSOURI, U. S. A. ★

The Birdmen's Perch

By *Major Al Williams*, ALIAS, "TATTERED WING TIPS,"
Gulf Aviation Products Manager, Gulf Bldg., Pittsburgh 30, Pa.

THIS IS GETTING EXCITING!

We started the Little Known Facts About Well Known Planes Dept. more than a year ago. We offered a genuine, engraved-type, jet-propelled Commission as Perch Pilot (bottom rung), for a Little Known Fact— with proof—good enough to print.

We also promised promotion to Senior Perch Pilot for *five* Facts. (And to Command Perch Pilot after twenty of your Facts have been run!)

We've commissioned Perch Pilots all the way from Harrisburg to Honolulu.

Some have got two—some three . . . but only two Perch Pilots have got 4 to date. George Clay, of Dallas, Tex., becomes a 4-timer with the "Fact" below. Jim Adams, of Toledo, is the other one-less-than-Senior Perch Pilot.

Every time we open a letter, we wonder whether one of these lads is going to be the first Senior Perch Pilot. Or will a dark horse gallop in with five "Facts" all at once and take first?

That's up to you. Meanwhile, we'll just open the mail and hold our breath. Here's Clay's fourth:

"The 'modern' wonder-metal, aluminum, was used in the first powered airplane! The flight at Kitty Hawk was made with an engine which had a cast aluminum crankcase and water jacket!"

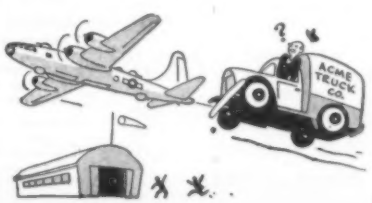
And a Commission to Beverly Stevens, Municipal Airport, Omaha, Neb., for:

"In warming up, a B-29 uses enough fuel to drive a truck from Omaha to Cleveland!" (G.A.G., we assume, Ed.)

S/Sgt. Robert Stolze, Sqdn. D, C.A. A.F., Clovis, N. Mexico, has been promoted since his first "Fact." Here's No. 2:

"The cooling area of the B-29's engines is greater than the total wing and tail area of the plane!"

See how easy it is! Now *you* write some!



SELECTIVE SERVICE

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That's the term lubrication engineers use to describe one of the toughest problems in friction prevention. It's the effect on your lubricating oil of engine-part temperatures ranging from below zero to 750°!

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Ever hear of the Alchlor Process?

That's the term lubrication engineers use to describe the super refining step in the manufacture of Gulfpride Oil. It's an additional step that pulls out more of the 4F hydrocarbons from Gulfpride—the same 4F's that oxidize so easily during that "Oil migration."

So Gulfpride Oil gives you *more* lubrication and less sludge and carbon.

You ought to use it.

THE VERSE IS YET TO COME DEPT.

Flutter, Prop.

While flying a surplus PT,
A pilot was dumbfounded. He
Was passing P-80's
Like a bat outta Hades!
(He'd gassed up with Good G.A.G.!)

American Aviation

Volume 9, Number 14 *The Independent Voice of American Aeronautics* **December 15, 1945**

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American Aviation is published the 1st and 15th of each month by American Aviation Associates, Inc., American Building, 1317 F Street, N. W., Washington, D. C. Printed at the Telegraph Press, Harrisburg, Pa. Subscription rates for the United States, Mexico, Central and South American countries—$4.00 for 1 year; $7.00 for 2 years. Canada—$4.50 for 1 year; $8.00 for 2 years. All other countries—$5.50 for 1 year; $10.00 for 2 years. Entered as Second Class matter in Washington, D. C., and Harrisburg, Pa.

Publishing Corporation: American Aviation Associates, Inc., Wayne W. Parrish, President; C. C. Thompson, Executive Vice President; Col. Albert H. Stackpole, Vice President (in active military service); Eric Bramley, Vice President; Brig. Gen. E. J. Stackpole, Jr., Treasurer; Thomas E. Lindsey, Sec'y.

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Editorial

(Continued from page 1)

AACS) it would not have been possible to provide high flying and safety standards on a par with those in the United States. Without ATC, U. S. aviation influence and prestige would have melted appreciably as soon as the war came to an end.

The long-range benefits are many. First of all ATC has meant the retention of U. S. airpower and influence until commercial carriers can take hold and assume that responsibility. Secondly it has meant the continued operation of, and further extension of, U. S. air navigational aids and flight standards that are of the greatest importance to aviation in the future. American standards have been installed throughout Europe. And last, but not least, ATC's work subsequent to the close of the war has meant that the American traveling public in Europe (both pleasure and business) will be assured of facilities and standards on a par with those in the U. S.

At a time when the entire military enterprise in Europe was deteriorating very rapidly (starting in September), it has been a pleasure to observe at close range for two months the sincere and conscientious efforts of the ATC staff in Europe in building up something, and working toward something, that will have vital long-range national benefits for the U. S.

In the earlier days of the European Division it was men like Laigh Parker of Delta Air Lines, of Jimmy Flynn of American, and of Art Kelly of Western Air, and a host of others, who made up ATC's large organization. Following up more recently has been Col. George C. Van Nostrand, an able citizen and officer; Col. Bryant Boatner, Col. Hal McCord, Lt. Col. William T. Arthur (on leave from American), Lt. Col. Gordon Blake and others.

Other ATC Divisions have piled up more impressive performance records. None has done better on safety. But certainly no other ATC unit has contributed so much to the permanent welfare of the United States and its aviation interests.

Commercial vs. Military

PARIS—As this is written news dispatches from the United States relate that L. Welch Pogue, chairman of the Civil Aeronautics Board, pleaded for continued separation of civil and military aviation in his speech before the National Aviation Clinic at Oklahoma City.

His remarks are timely, for what has been happening in Europe since V-J Day amply justifies his pleading. So vast has been the deterioration of the Army in the European Theater that one can only conclude that whatever air influence America retains in Europe will come very largely from the commercial (or civil) side.

The United States is so far from Germany not only in terms of physical distance but in terms of thinking and direct interest, that it does not seem to be destined for the U. S. to participate indefinitely in a strong military occupation of that country. A holding force, a police force—yes. But the interest of U. S. men in uniform of what happens in Europe dropped to rock bottom when the shooting was over.

The young replacements which are now arriving in Europe didn't want to come. They have no feeling of antagonism toward anyone. They can't conceivably capture the morale and spirit which prevailed in the attacking armies. And the men who are remaining are anxious to get home to the point that their morale is low, their behavior is very bad, and they are failing to set the proper example for a conquered people.

In aviation the United States Air Forces in Europe has set a very high goal in the number of aircraft which they wish to retain. This interim air force includes even 500 C-47 transport aircraft. To maintain the several thousand aircraft which the European forces wish to retain will require a very large force of men. Granted that we must have an impressive holding force or else we might as well withdraw, the question still arises as to whether an efficient organization can be maintained in the occupied zones.

During the war the Army demonstrated that it could operate efficient and safe air transport service. But it is extremely doubtful, now, that the Army can continue to operate such extensive services in peacetime. Air service is badly needed in Europe today, but it is doubtful that a purely Army organization is the proper agency to handle it. The fabulous incidents of carelessness, recklessness, inefficiency and unsafe maneuvers, which feature the Army's European local services today, are enough to make old-timers shudder and do.

We have often remarked that World War II is a turning point in the history and direction of aviation, and Europe today is Example No. 1 of this change. The military has dominated virtually all aviation up until the war which has just closed. But all the signs point to a lessening of this domination. Civil aviation is going to predominate and lead, and it is the transport airplane that is bringing about the change. The emphasis in operations is Europe, it seems to us, should be placed on civil or commercial transport. The Army is not capable of providing an extensive air transport network. Better to let out the job in Europe on contract than to spoil the excellent wartime record which ATC, NATS and numerous other airline groups established in various parts of the world.

The Record Goes Boom

DURING the war the Army Air Transport Command and the Naval Air Transport Service functioned with truly extraordinary safety and efficiency. The services were smart enough to obtain the leadership and direction and experience of trained airline men.

With the withdrawal of Air Transport Command from virtually all local services in Europe, the Army itself has taken over the task of supplying intra-theater air transport services and for this purpose it absorbed all of the miscellaneous Troop Carrier and Airborne personnel available into a new outfit called European Air Transport Service, or commonly, EATS.

EATS is a sorry excuse for an airline, a pathetic successor to the smooth-operating ATC. There is not a single experienced air transport man in an organization endeavoring to fly over most of the Continent in winter weather noted for its low ceilings, fog and changeability, to say nothing of the acute lack of air navigation aids—even if the EATS pilots knew how to use them.

EATS is comprised of low-point combat crews and

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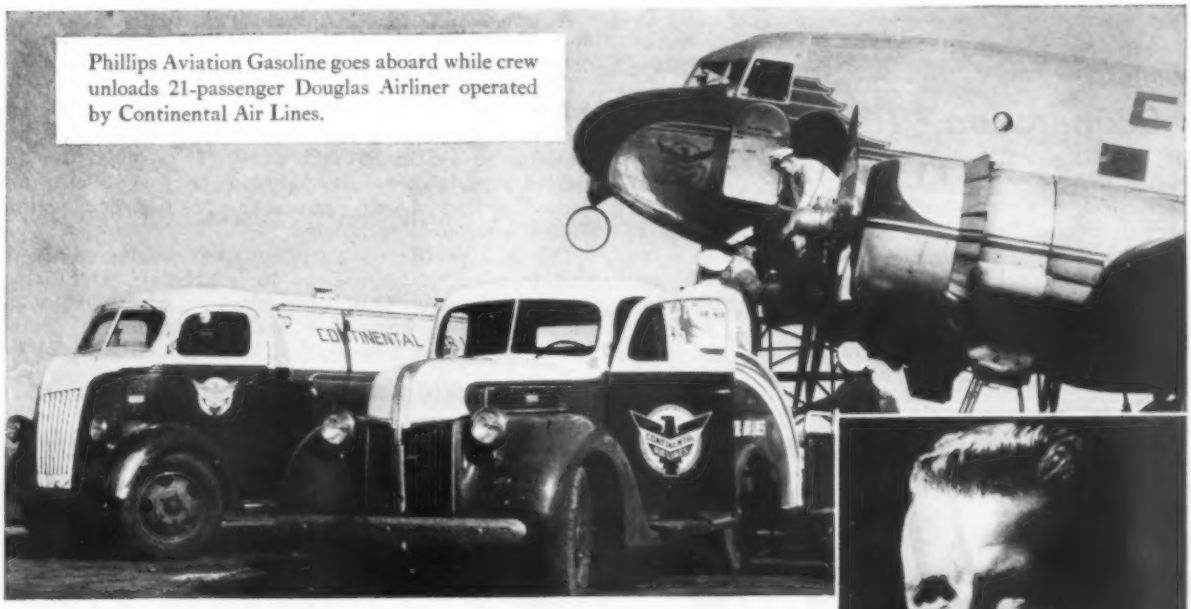

Phillips Aviation Gasoline goes aboard while crew unloads 21-passenger Douglas Airliner operated by Continental Air Lines.

Robert F. Six, President of Continental Air Lines, is America's youngest airline president.

For an industry which has had a rate of growth greater than Paul Bunyan's, Continental is still a stand-out!

Just eleven years old this past summer, Continental showed a 1-year increase of 121% in revenue passenger-miles flown in 1945.

We're interested in this figure because we played a part in helping create it. Over the past 4½ years Continental has flown over 9 million Phillips-powered miles—consumed 4 million gallons of Phillips Aviation Gasoline!

Now that's a pretty good record—for Continental *and* us. But what is more important, we think, is the satisfaction and good-will we've built at Continental.

This is an advertisement for our Aviation Gasoline. And we think the best tip-off on *any* product is the kind of folks who use it. Ask *them* about Phillips products and Phillips Service. Or ask us. Just write to the Aviation Department, Phillips Petroleum Company, Bartlesville, Oklahoma.

Phillips
AVIATION GASOLINE

ground personnel who find themselves with the task of operating an airline network. Green men proved out well during the war in ATC and NATS—but the leadership so valuable to efficiency and safety were ever-present. The best maintenance men have gone home and EATS is having a terrific time trying to keep its hundreds of combat C-47s serviceable. There have been fatal accidents (70 killed in 10 days). We are sorry to predict that there will be more.

The high U. S. standard of air transport operations set during the war is declining rapidly. Brig. Gen. L. V. Beau, commanding EATS, has an impossible job. Far better is it to fold up EATS entirely than to attempt to operate it with immature, inexperienced—almost irresponsible—kids. EATS in one sense is a farce, but it is also a danger. The Army had one sad experience of trying to fly the mail in 1934. It is experiencing a repetition of the 1934 fiasco right now in Europe. Before too many *more* lives are lost, something must be done. Combat youth in their teens don't make transport pilots.

WAYNE W. PARRISH

Cooperation With PICAO

THE Provisional International Civil Aviation Organization has a big job ahead of it. Until the staff of the secretariat is fully recruited, the organization will of necessity move slowly on some problems. The next few months will tell whether it has been able to solve some of the vital problems remaining from the Chicago conference and whether it can handle the other important responsibilities that have been given to it under the interim agreement.

The American delegation to PICAO, headed by able and well-liked Gerald B. Brophy, seems well organized, but it needs help. It needs help that can come from only one source—the U. S. airline industry.

The American delegation works in this way: Each subject being considered by PICAO is referred back to Washington, where a sub-committee is formed to handle it. The chairman of the sub-committee is a member of the government agency most concerned with the particular subject, and the remainder of the group is composed of officials from other interested agencies. This sub-committee reports its findings and recommendations on policy matters to the Air Coordinating Committee which in turn decides what course our representative in Montreal shall follow. To carry the coordination further, the chairman of each Washington sub-committee is a member of the PICAO sub-committee in Montreal which is considering his subject. Moreover the airline industry and other interested groups have been invited to participate as advisers in the formulation of views both in Washington and Montreal.

This seems to be a good and workable system. The airline industry should take full advantage of the cooperation offered to it and furnish the best talent it has available to aid in PICAO work. It is given the opportunity to express its opinion before policies are formed instead of being put in the position of objecting after the work is completed.

This is a problem with which the airlines would do well to concern themselves to a greater extent than they have to date. Our representatives on PICAO want and need their know-how and cooperation.

ERIC BRAMLEY

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Trend of

(As compiled and edited by Clifford Guest,

Brief Aviation Observations: The activities of Al Lodwick, Florida flying school operator, in Washington during the past few weeks inspired a flock of reports that he was being considered seriously as successor to Robert Lovett as Assistant Secretary of War for Air. . . . Out of 110 pilots hired in recent weeks by PCA, 109 were former Army or ATC men. . . . There are those who will say that Dr. Francis Deak, the U. S. civil air attache in Berne, Switzerland, is one of the smartest and most valuable aviation men in the U. S. government . . . and they will be right. . . . The airlines raised no objection to turning over 70% of their eastbound seats to servicemen, but it looked like short-sighted policy to them for the Army to drop all priorities, let the lines build up a huge backlog of reservations, and then suddenly clamp on this restriction. . . . Col. William Westlake, who distinguished himself as head of the AAF public relations during the war, is returning to the U. S. for re-assignment and will probably leave the Army soon. . . . Since August he has been head of public relations for the armed forces division of the U. S. Group Control Council, Berlin, under Maj. Gen. Robert W. Harper. . . . The coming resignation of Chairman L. Welch Pogue from CAB Feb. 1 indicates that several pending important decisions will be out before that time. . . . Look for Ex-Mayor LaGuardia to announce the dope on NAA's "citizen's committee for unification of the armed services" in his commercial radio debut Jan. 6. . . .

Martin's Airliner Servicing Plans: Displaying another facet of leadership which marks its postwar plans, The Glenn L. Martin Co. proposes to handle at its Baltimore plant the major overhaul work for all purchasers of the Model 202—thus eliminating the necessity of each airline having extensive ships, parts, supplies and mechanics for heavy work. Martin also is studying the idea of building and maintaining several planes on a "stand-in" status, to be turned over to the airlines on "lend-lease" when a plane is brought in for overhaul. Thus the lines would not need to maintain their own stand-in planes or cancel flights when one is laid up for overhaul. Geographical proximity to most of the major airlines gives the Martin plan an added advantage. Other manufacturers, however, may come out with similar arrangements.

Assistant Secretary of State for Air: The trip of Postmaster General Robert E. Hannegan and Second Assistant Gael Sullivan to Paris on TWA's preview flight, may be followed by definite action soon on the appointment of an Assistant Secretary of State for Air. This was one of the things Hannegan had in mind in his look at international flying, and Hannegan will have a big voice in selection of a man for the post. President Truman is understood to have been actively interested in the matter for some time.

Notes in the Manufacturing Field: The military prototype of Republic's Rainbow transport will fly in a couple of weeks. . . . There are indications that orders for the commercial version, other than the one already announced by Pan American, will be forthcoming soon. . . . If North American gets a production order for its twin fuselage P-82, as anticipated, it probably will be for 100, perhaps 200. The later figure would be a "big order" for the company which during the war built more than 15,000 P-51 Mustangs. . . . Douglas Aircraft Co. now has a payroll of about 20,000 after a war peak of 160,000. . . . Because of the immense turnover, about a million people actually have worked for Douglas. . . . Now thousands of veterans want their jobs back—and there are no openings. . . . Considerable interest is being shown in the Martin PBM-5A, largest amphibious aircraft in the world, which was unveiled last fortnight. . . .

The News

Managing Editor, American Aviation Daily)

Public Reaction to Fare Argument: The effect of the transatlantic fare squabble from the standpoint of public reaction cannot be measured accurately but it is obvious that the great spread between Pan Am's short-lived $275 rate and the war-time rate will run into varying interpretations by the public. For instance, the Wall Street Journal got out its pencil and figured as follows: "Keeping fully in mind that transatlantic and transcontinental flights are by no means strictly comparable, it is interesting to note that the $275 rate is roughly eight cents a passenger mile and the $375 rate is 10 cents. The domestic rates average 4½ cents and the ultimate mass-transportation goal is three to four cents. Even a reduction to 4½ cents would seriously undercut transatlantic steamship rates and the British are heavily interested in steamship lines."

No Public Voice in Non-Scheduled Argument: In the sharp conflict between the proponents and opponents of regulation for non-scheduled commercial aviation enterprises which marked the two-day oral argument before the Civil Aeronautics Board last fortnight, two important considerations seem to have been overlooked, in the opinion of several observers. In the first place, no one took the part of the shipping and traveling public, which almost certainly stands to gain added protection from the financial responsibility which regulation would require of non-scheduled carriers. Secondly, no one took occasion to point up the possibility that returning war veterans might have their opportunities of entering non-scheduled commercial aviation considerably improved through the protection against cut-throat competition they would have if CAB decided to regulate the industry.

Flight a Day 'Round the World: Air Transport Command publicizes the fact that its Globester flight circles the world once each week. What most people don't know, however, is that ATC really has a flight around the world every day. TWA's ATC contract service leaves Washington every day, terminating at Karachi, India. C-54 connections are made at Karachi, on to Calcutta, China, Manila, and on back east to the U. S. west coast. At that point ATC's Statesman, daily transcontinental, takes over for the flight to Washington. Schedule is substantially the same as the Globester. Thus, although it's a connecting flight, it's still a round-the-world schedule.

Aviation Notes, Here and Abroad: United Aircraft Corp. is the only American aviaiton stock listed in newspapers and financial bulletins in Switzerland. . . . In Switzerland they are still talking about the C-54 trip which Col. Henry "Hank" Myers made last July and which came within a squeak of causing an international incident . . . and since Hank owns a string of hotels they wonder why he really needed to make that trip. . . . A German supersonic wind tunnel found in Bavaria is being sent to the U. S. and will be reassembled at the Naval Ordnance Laboratory at White Oak, Md. . . . The Navy Office of Research and Inventions has asked Congress to approve the bringing of from 200 to 300 german wind tunnel experts here to be employed in development of American aerial dynamics. . . . Tom Burke, who recently resigned from American Export Airlines, is cooking up some original ideas for the export business he is developing. . . . For instance, he hopes to ship to foreign countries the vital mechanical parts of radio sets and have companies abroad make the cabinets, etc. . . . A similar scheme will be applied to various other U. S. products. . . .

Negotiations with the French over a bilateral aviation agreement have been proceeding satisfactorily and officials expect some action in the near future. . . . Contents of the agreement cannot be revealed at this time but are described as very satisfactory. . . .

Letters

Departmental Jealousy?

To the Editor:

I have just read your editorial (Are We Missing In Europe?) and article in the November 1 issue of AMERICAN AVIATION . . . It has been my contention throughout the past two years, during which time I have been with the Air Transport Command developing routes and terminals in the North Atlantic, that there has been too little coordination between the War, Navy, State and Commerce Departments concerning the operation of air transportation systems and their supporting activities; that the State and Commerce Departments were too ill informed on developments to plan a concerted effort toward the success of U. S. foreign air commerce such as the commercial interests have been talking of for such a long time. At the same time there have been many cases wherein the State and Commerce Departments when afforded the opportunity of obtaining needed experience and information concerning such developments assumed the attitude that such was not within the scope of their activity . . . Hence we find ourselves with a year or two of work to do, which should have been done, in part at least, in the past two years. Departmental jealousy and shortsightedness has been largely responsible for such a condition . . . There is no doubt whatever that so long as we do not have a cabinet member for Air and that the welfare of commercial aviation is the function of a small division of the Commerce Department, we are in dire need of a very strong and experienced aviation section of the State Department.

NAME WITHHELD ON REQUEST.

'Authentic Write-up'

To the Editor:

I wish to personally express my appreciation of your very finely presented article in the November 15th issue of AMERICAN AVIATION regarding the development of the Burnelli airplanes—upon which I have been engaged during the past two years . . . I would like to add a remark passed at our office when we saw the above mentioned article: ". . . This is the best and most authentic write-up of all . . ."

NORMAN MacQUEEN
New York, N. Y.

'Dangerous Thinking'

To the Editor:

Thank you for sending me the issue of AMERICAN AVIATION of November 15 in which there is a discussion of the report on the demobilization of the aircraft industry submitted to Congress by the Air Coordinating Committee. I was especially interested in the comments of the manufacturers . . . while I have an intense respect for the gentlemen who have made those statements, I feel that they represent a type of thinking that is exceedingly dangerous to the future security of this country.

. . . Had the Southern California manufacturers chosen to argue against dispersion on grounds other than military security I would have no quarrel with them. Since their arguments, in the main, have attempted to prove dispersion would not add protection against a future attack, I feel I can justly take issue with their statements.

The main theme of their statements has been that dispersion would not bring added protection because the bombers or other aerial missiles of a next war would be capable of reaching any point in this country. With that there can be no argument. The Air Forces started their study on that assumption. To stop there, however, seem to me superficial in the extreme. The Air Forces do not say an inland location is more secure than a coastal location; they do say, emphatically, that a dispersion of industrial targets is far less vulnerable than a concentration . . . When it is realized that one, or at the most two or three, atomic bombs of the future could wipe out that entire segment (concentrated West Coast) of the industry in a surprise raid, I cannot but feel that those who are opposing breaking up the concentration are the ones, to quote Mr. Douglas, who "like a giant ostrich, (are hiding their) heads or plants under the inland sands." The Air Forces are not advocating putting these plants underground; they are not advocating moving the entire industry to an inland location. They are advocating that present concentrations be broken up through dispersion to reduce their vulnerability to attack.

LT. COL. A. W. BETTS, AC
(Former chief, Demobilization Planning Branch)
Washington, D. C.

Obituary

Porter Hartwell Adams

Dr. Porter Hartwell Adams, a founder and former president of the National Aeronautic Association, died of a cerebral hemorrhage at his home in Boston December 4 at the age of 51. Dr. Adams made significant contributions to aeronautics as an inventor, educator and administrator. He was president of Norwich University from 1933. Chairman of the executive committee of the National Aeronautic Association at its foundation in 1922, he served as president from 1926 to 1928. He afterwards was re-elected to the executive committee and as a former president, became a member of the Association's Senior Council. As an official of the Association, he was also vice president of the 1927 International Air Congress at Rome, technical adviser to the American Delegation to the International Civil Aeronautics Conference at Washington in 1928 and chairman of the aviation medical section of the First National Aeronautical Safety Conference in the same year.

Books

THE AIRPORT DIRECTORY: An annual service by the publishers of the monthly magazine "Airports." 1945 ed. J. Kirk Baldwin, editor . . . New York, Haire Pub. Co., 1945. $3.00: paper cover.

This is the first reference guide to public and private airports in the U. S. to be released since 1941. Airports are listed alphabetically by the city served in each state. Information as to name, class, location, elevation, ownership, landing facilities and services available are given for each airport. From cursory examination, it seems that in some cases classification is based on length of runway only and does not take into consideration altitude. A map of each state is included, showing location of various airports. The second part of the directory had many special features, among them are State aviation fuel taxes, a list of fixed-base operators, flying schools, Civil air regulations CAA and CAB local and regional offices, State aviation boards, Radio range stations, and a Buyers' guide.

A. A. G.

WINGS FOR THE DRAGON. By Alice Rogers Hager. Dodd, Mead and Company, New York. 307 pp. Illustrated. $3.00.

Alice Rogers Hager visited the India-Burma and China Theaters of war when the going was rough—when it was hard enough for a man to get around, let alone a woman. Despite the conditions, she gathered—first-hand—the material for a book that is an accurate, interesting and valuable reporting job on the "forgotten" war.

This reviewer spent seven months in the same territory covered by Mrs. Hager during her tour as a war correspondent. He can vouch for the fact that she has given credit where credit was overdue—to the hardworking but little-publicized liaison outfits, Troop Carrier Command, nurses, Hump fliers and others. She writes of their incredible hardships, hardships that are not well enough known by the American people.

Mrs. Hager is also to be commended for her frank and accurate discussion of the "rotten politics" that prevailed in some of the higher ranks in the Chinese Army and served to complicate tremendously our air war in China. She has aired a situation which until recently was kept under the wraps of censorship.

Mrs. Hager's book is highly recommended as factual, fascinating, and sometimes heart-breaking reading.—E. B.

Wings of Yesterday

Twenty-Five Years Ago

The aeromarine flying cruiser "Christopher Columbus" arrived in Miami, Florida from New York in the flying time of 16 hours and 30 minutes. (Dec. 12, 1920.)

A U. S. Navy Free Balloon, A-5598, carrying Lt. Louis A. Kloor, Walter Hinton and Stephen A. Farrell, landed near Moose Factory on James Bay, Ontario, Canada. The balloon had been in the air for twenty-five hours, having drifted 852 miles from Rockaway Naval Station on Long Island. (Dec. 14, 1920.)

Fifteen Years Ago

Ruth Nichols flew from Los Angeles, California, to New York in 13 hours, 21 minutes flying time, or 29 hours, 1 minute and 43 seconds elapsed time. She was piloting a Lockheed Vega, Pratt & Whitney Wasp motored. (Dec. 9-10, 1930.)

The first International Congress for Aerial Safety opened in Paris, France. (Dec. 10, 1930.)

A National Conference on Uniform Aeronautic Regulatory Laws held a two-day meeting in Washington, D. C., under the auspices of the Aeronautics Branch of the Department of Commerce. (Dec. 16-17, 1930.)

ROUTINE STUFF

Flying the oceans isn't a new experience to TWA planes and crews. TWA has more than 8,700 overocean flights to its credit, starting in February 1942, with service to Cairo, Egypt. That was the pioneer overocean flight of any domestic airline for the Army Air Transport Command. Later TWA became the first U. S. airline to operate year-round schedules across the North Atlantic. Pictured above is TWA's new trans world system, the foreign portion of which is just as familiar to our crews as are the airways of our domestic routes. Wherever you live along TWA's transcontinental route, you will soon have direct, one-carrier service to key foreign centers halfway around the world to India and Ceylon. If you're going to Europe, Africa or Asia, see TWA or your travel agent now.

NEWFOUNDLAND
IRELAND
FRANCE
SWITZERLAND
ITALY
GREECE
EGYPT
PALESTINE
TRANS-JORDAN
IRAQ
SAUDI ARABIA
YEMEN
OMAN
INDIA
CEYLON
PORTUGAL
SPAIN
ALGERIA
TUNISIA
LIBYA

TWA
TRANS WORLD AIRLINE

control and other restrictions at the International Aviation Conference last year and in the recent discussions, were now seeking to impose controls by keeping a finger on rates.

Although they did not necessarily agree with PAA's $275 rate or express any opinions on the motive behind it, these officials pointed out that a fare must be based on the cost of the service plus a reasonable profit (PAA claims that $275 is reasonable on five trips weekly). Using fare structures for any other restrictive purposes will lead to trouble, they said.

Some officials in the government somewhat resented the PAA implication that it had been "forced" to raise its fare. They claimed that PAA would have been protected, competitionwise, had it elected to remain at $275. Confidential letters written by CAB to both PAA and AOA had stated that if PAA kept its $275 rate on two weekly trips, the Board would then ask AOA to reduce to two trips weekly. If the rate was raised, frequencies would be evenly divided between the two.

Against all these claims and opinions was the British position. They wanted an interim agreement (in the absence of a permanent agreement) based on controlled frequencies and an agreement on fares. These, they said, would prevent a rate war and a "swamping" of frequencies.

Were Free to Do As They Pleased

Unable to get an interim agreement, the British were free to do as they pleased regarding services into London. They felt frankly that the $275 rate was uneconomical and resented PAA stating, without consultation, that it would operate five trips weekly at that figure. They were willing to have American operate five trips because the rate was similar to BOAC's.

(Meanwhile, BOAC, with only three Boeing flying boats, was flying only one trip weekly and was not expected to reduce fares to $375).

The British denied with some heat that they were attempting to keep fares up. They felt that $375, a rate which had been discussed among some operators, was all right for the interim period, but they emphasized that they would stand behind any rate arrived at by IATA, "be it $500 or $100."

As this issue went to press IATA's rules for setting up regional traffic conferences were on CAB's agenda for consideration. CAB must approve the set-up before U. S. carriers can participate, and the Board considered the item to be of major importance. If outright approval is granted, it would mean that the Board believed that the traffic conference method would work and was the way that fares should be handled. Some informed persons believed that the Board might approve, but with reservations and qualifications.

Officials made no secret of the fact that the entire fare situation was causing them much concern. Nations attending the Chicago conference last year had generally agreed that fares were an operators' problem. But in view of recent squabbles, there were some who wondered if IATA could ever get the required unanimous agreement on fares. PAA claimed that AOA or BOAC could block a $275 rate. The others could claim that PAA could block what they considered the economical rate.

There was growing evidence that some people were thinking of PICAO as a possible solution. One official theorized on a plan under which any nation protesting what it believed to be an uneconomical fare would call on PICAO for a study and advisory opinion. Everyone predicted that fares would be the subject of much discussion during the next several months. CAB was studying them (but was not prepared to reveal results) and airlines were studying them. What will happen was anyone's guess.

Gen. Spaatz Awarded Collier Trophy for '44

Gen. Carl A. "Tooey" Spaatz was awarded the Robert J. Collier Trophy for 1944 for "demonstrating the airpower concept through employment of American aviation in the war against Germany." The award was made by President Truman and Gen. Spaatz was guest of honor at the 42nd Annual Aviation Dinner sponsored by the Aero Club of Washington Dec. 17.

Gen. Spaatz

The Collier trophy award is made annually by NAA for the year's most significant contribution to American Aviation. Other awards made at the dinner included the Frank G. Brewer Trophy for 1945 given to Dr. H. W. Hurt, director of program development of the Boy Scouts of America.

The Brewer Trophy is given annually to the individual who has contributed most to aviation education. Dr. Hurt's award was on the basis of his contribution to air age education of the Air Scouts program of BSA.

The Andrew J. Haire airports award, previously announced, was formally presented to Beverly O. Howard. Charles A. Lindbergh, until recently a special consultant to the War Department, was principal speaker at the dinner, and Gill Robb Wilson, aviation editor of the *New York Herald-Tribune* was toastmaster.

U. S. Concludes Bilateral Agreement With Portugal

The Department of State reveals that a bilateral air transport agreement has been concluded with the Portuguese Government, providing for the so-called Fifth Freedom traffic privileges.

Services to be operated under the agreement by United States airlines include a route via Bermuda and the Azores to Lisbon, with one sector proceeding to London and another to Barcelona and Marseilles; a second route via Newfoundland to Lisbon, proceeding onward to the Middle East via Madrid and the Mediterranean area; and a third route across the Pacific which includes a stop at Macao.

Portuguese air services are granted the right to operate from Lisbon to New York via the Azores and Bermuda.

Aviation Calendar

Dec. 16-17—"International Aviation Day," exhibits, air show, etc., El Paso, auspices Chamber of Commerce.

Dec. 17—Wright Brothers Lecture, Institute of Aeronautical Sciences, 3:30 p. m., U. S. Chamber of Commerce auditorium, Washington, D. C.

Dec. 17—Anniversary dinner, Aero Club of Washington, Statler Hotel, Charles A. Lindbergh, speaker.

Jan. 4-6—All American Air Maneuvers, Miami, Fla.

Jan. 7-8—SAE annual meeting and engineering display, Book-Cadillac Hotel, Detroit.

Jan. 8—IATA North Atlantic rate conference, New York.

Jan. 10-11—Iowa-Neb. Air Age Institute, University of Omaha.

Jan. 11-12—Indoor aircraft show in Public Hall, Cleveland, auspices Cleveland Aviation Club.

Jan. 12-13—Dedication of New Orleans Moisant Airport.

Jan. 21—PICAO Council reconvened, Montreal.

Jan. 21-22—Northwest Aviation Planning Council, Boise Hotel, Boise, Idaho.

Jan. 29—IAS Honors Night Dinner, Waldorf-Astoria Hotel, New York.

Feb. 12—IATA European Rate Conference, Paris.

Feb. 21—IATA Middle East Rate Conference, Cairo.

Mar. 1-5—Pan American Aircraft Exposition, Dallas, auspices Chamber of Commerce.

April 3-5—SAE National Aeronautic meeting, Hotel New Yorker, New York.

July 19-20—NAA National Convention, Omaha, Neb.

Oct. 14-17—National Aviation Clinic, Oklahoma City.

CAB Chairman Pogue Expected to Resign

There were well-established reports in Washington last fortnight that L. Welch Pogue would soon resign as chairman of the Civil Aeronautics Board. One report was that he would leave about Feb. 1 to open a law office in Washington.

Pogue was neither confirming nor denying the reports. When a similar story was circulating months ago, he denied it. Today he is not doing so.

The CAB chairman, who has been the unquestioned leader of civil aviation in government circles, has in the past turned down some lucrative offers far surpassing his present $10,000 a year salary. The desire to secure additional income will undoubtedly affect his decision.

Industry officials are loath to see Pogue leave at a time when much remains to be straightened out in the international field—a field in which they say he has been ahead of others in his thinking. Also of concern is the fact that there is already one vacancy on the Board which may possibly be filled by a purely political appointee. At least five good names have been submitted for the present vacancy but there is little indication as to how much consideration they have received. Officials also point to the need for a strong Board at a time when there is talk of transportation integration.

Swiss Greet All Visitors With Open Arms; It's Habit

They Wisely Catered to Germans During the War

By WAYNE W. PARRISH

GENEVA, SWITZERLAND—Before the war tiny Switzerland catered to tourists and vacationists from all over the world.

During most of the war the Swiss were surrounded on all sides by the Axis. It is obvious from the large amount of literature published in German that the Swiss lost no time in catering to the wishes of the Germans and that a great many Germans spent vacations in Switzerland during the war.

Today the American GI is touring in Switzerland and the aggressive Swiss have lost no time in catering to them. But they haven't had time to print new booklets in English, and waitresses are having a difficult time learning or re-learning their few words of English. A year from now everything will be English. But right now one can get along better in Switzerland if one knows German.

All of which merely points up the fact that neutral Switzerland has profited from the war in a great many ways. If the visitor feels that he is welcomed in Switzerland it is merely because the Swiss are accustomed to greeting visitors. But the American should not feel that the welcome he receives is given to him just because he is an American. The same welcome goes to everyone, and went to the Germans in ample quantity when the Germans were predominant.

If one has an American dollar in Switzerland he can get between forty and sixty cents for it. Congress would rise in horror at the discount offered for American currency. For example there is a jeweler in Geneva who has $60,000 in American currency which he would like to get rid of and if you have Swiss francs, you can buy all the American dollars you want for sixty cents on the buck. The trouble is that Swiss francs are difficult to get. The franc is now 24 cents and an American civilian is permitted to cash a thousand dollars of travelers' checks a month for living expenses. The GI gets about $50 for his tour which doesn't go far in Switzerland.

Steaks Four Days a Week

You can find just about everything you want in Switzerland but the prices are on the high side. Three days a week are meatless days but you can have steaks four days a week. Eggs are not plentiful but they can be had. At first the food seem marvelous, but after a week one begins to find the limited menus monotonous. There seems to be plenty of food and one doesn't go hungry, but there isn't much variety.

Even Scotch whiskey is obtainable but the price is $1.75 for a good drink, so one doesn't stage a party in a country where the local currency is so hard to obtain. And you can buy Scotch in the stores by the bottle but a friend of ours found that when he returned to Paris he had been defrauded. Foul-smelling liquid had been substituted for the Scotch and a false bottom to the bottle inserted.

In Geneva there is a very nice little restaurant called Le Mazot, operated by a young Swiss who had worked for eight years in New York hotels. He even brought back a lack of courtesy from his New York experience. Four of us had a reservation for a table in Le Mazot and arrived to enjoy a good steak dinner. At the same moment a monocled Dutchman barged in and took over our table, with the manager's permission, and we sat at a small table in the center of the floor. You can get kicked around in Switzerland as well as any place else. If you visit Le Mazot, a reservation won't help you.

Train service is excellent. All railroads are electrified, the trains are fast and frequent, and operate precisely on time. Air service would be impossible within Switzerland with such good rail connections and the travel time between Geneva and Zurich, for example, is just four hours.

Really Cold in' Switzerland

But despite the fact that Switzerland was undamaged during the war, despite the fact that the country is prosperous and the stores well stocked with everything from electrical equipment to silk stockings, it is very cold there this winter. At the hotel you pay about 45 cents a day per person for what is called heat. There is hot water in the mornings at the better hotels. But the Swiss are cold in their homes. Automobile fuel is extremely short, too. The only thing that seems plentiful is electricity. Sugar is scarce but butter plentiful. Cigarettes are very plentiful but of very poor quality.

Above everything else, Americans are most interested in watches and Switzerland has thousands of them for sale. They are in every other shop window—every conceivable kind and size and for every price. The GIs have little money so they are buying cheap watches which will disappoint them. They are getting rooked, for the most part, which is a shame. But the American GI is setting all-time records around the world for taking back to his home country mountains of just plain junk—worthless trinkets, cheap souvenirs, cheap perfumes, cheap watches, cheap material. Switzerland is no exception as a source of junk, whether it be souvenirs or watches.

But the finest watches in the world can be obtained in Switzerland if you have the money. Patek, Phillipe & Co., and Vacheron & Constantin, are still the two top makers and for $200 you can purchase beautiful watches that sell in the U. S. for much more. A Universal chronograph which gives you the position of the moon and the stars, the day, date and month plus some other things (as well as the time) can be obtained for $75 and up, the higher prices depending upon the quality of the case. Excellent Jeager-LeCoultre and Movado calendar watches run from $40 to $100.

The watch bargains are superb—if you can get the Swiss francs with which to buy them. Swiss customs permits you to take out five watches or clocks without paying export fees. Very few Americans in uniforms came to Europe with travelers' checks, hence they are stuck for money unless they have been able to arrange for money to be cabled to Switzerland for their use before entering the country. The amount which you can exchange in French or other currency into Swiss currency is very small. The Swiss don't want dollars, pounds, French francs—or any money but their own.

I spent a week in Switzerland and fog filled the valleys for every single one of these days. I never saw the mountains from the ground, but when we left Geneva Airport in a C-45 and climbed to 3,000 feet, above the ground fog, I saw the most beautiful mountain panorama it has ever been my pleasure to see. Set against a cloudless blue sky was a long range of snow-clad Alps, topped by Mont Blanc. There is no doubt that the Swiss Alps are among the world's outstanding sights and Switzerland, in good weather, is a vacationist's paradise. But November is no time to visit the country for fog keeps the valleys closed in for days at a time.

Aviation-wise, Switzerland should be a good and profitable stop for TWA during most of the year, but it won't be able to operate into that country until the runway at Cointrin Airport, Geneva, is extended from 4,000 to 6,000 feet. Construction should be completed sometime in 1946.

Geneva Airport will be the only airport in Switzerland suitable for Constellation and DC-4 equipment. There is only a cow pasture private-plane field at Bern, the capital, and Dubendorf Airport at Zurich is not adequate except for DC-3 operation. Over a hundred B-17 Fortresses landed at Dubendorf during the war, but the 4,000 feet limit to the field is not good enough for air transport operations. There are plans for a big international airport near Zurich but so far they are only plans and any airport there is some years away. Building an airport in mountainous Switzerland is no small problem, and not cheap.

Geneva is in the extreme southwest corner of the country in the French area. Zurich is in the German area and is, in fact, the only German-type city left standing in Europe. The Italian part of Switzerland is on the southern side of the Alps. Bern, the capital, is a mixture of German and French—mostly German. The German, however, is strictly the Swiss version although there are plenty of real Germans still being sheltered in Switzerland.

Geneva Rather Dull Spot

Geneva should be okey as an international terminal although Zurich is the larger and more industrious city. Since the League of Nations passed out of existence, Geneva is a rather dull spot and not by any means the most picturesque city in the country. But Swiss ground transport is so good that it really makes little difference which city has the international airport.

Due to weather delays, I finally took the train to Geneva from Paris, along with Lt. Col. William T. Arthur, chief of operations for the European Division of ATC, and Major Russell Gohring, public relations officer. It was a long and tedious trip, sitting up all night in a crowded second class compartment and

taking about 15 hours for the whole trip—in contrast to one and a half hours by air.

By the time our train reached Bellegarde, at the French border, it had cars hooked on from the Spanish border and various parts of France. A dozen nationalities were represented by the passengers. We were in civilian clothes, since only leave personnel can go to Switzerland in uniform, and going through customs and immigration was a pretty grim experience. The process for the whole trainload of people took just under two hours. In Geneva, Swiss customs and immigration took the better part of an hour.

Thus we got a taste of what it's like to be a civilian in Europe today. If you travel at all—and few can wangle the means and permission to do so—you encounter endless red tape. A civilian in Europe must constantly struggle to justify his existence and his right to live. The daily struggle for life is predominant. Americans in uniform, or Americans traveling under military orders or protection, simply have no conception of what it means to travel from country to country in Europe. And about a year from now American civilians will be having similar difficulties although the American is usually treated better than others as far as freedom of movement is concerned.

And when anyone speaks to me about uncouth Americans pushing their way ahead of others, I can recall the scene at the French-Swiss border when this mob of many nationalities was pressing through customs and immigration. Never have I seen more ill-bred, more uncouth, more insane pushing by women than I did on this occasion. Selfish, crude females of various nationalities, all seeking individual preferences and scrambling for position in line—the kind of European that burns up an American—the kind of European that escaped the war with plenty of money and is now returning to resume living in relative comfort.

In any event, travel in Europe is tough and rugged. Air transportation was virtually stopped during November by bad weather. If you had to go anywhere, it had to be by the hard way, by train. The train to Geneva had to stop for bridge construction and had to detour because many bridges are still out. As an example, the Milan-Rome train used to take 6 hours and now it takes between 29 and 30 hours. It's no fun traveling unless you have your own military plane and are able to escape the red tape and delays.

CAA Acquiring 231 Planes From Surplus; Two C-54s

The CAA is acquiring 231 aircraft from surplus, the bulk of them to replace obsolete equipment. A total of 108 of the planes are BTs. Of the remainder, two are C-54s which will be used at CAA's standardization center at Houston, Tex., to train air carrier inspectors.

Other of the aircraft being acquired include six DC-3s, three of which will be used in Alaska, two at the standardization center and one at CAA's experimental station at Indianapolis; 59 Beechcraft (C-45s), to be used primarily in patrolling ranges; and 45 single-engine Beechcraft.

Admiral E. S. Land Expected To Accept ATA Presidency

W. A. Patterson Returns To Board; Woolman Named

VICE ADMIRAL Emory S. Land, chairman of the Maritime Commission, is prepared to accept the presidency of the Air Transport Association of America as soon as he is released from present duties by the White House.

Officials who confirmed rumors that had been circulating in Washington for several weeks said that Land could be expected to join ATA on the first of the year or shortly thereafter.

Meanwhile, Land's office was busy denying that the retired vice admiral had resigned and that he had signed an ATA contract. No statement was expected until President Truman releases him from the Maritime Commission job.

With Land taking over the presidency and Rep. Robert Ramsbeck (D.,Ga.) becoming executive vice president, ATA's top positions will be filled by men who are well known in Congressional and governmental circles.

Stuart Tipton, who has been acting president since the death of former president Edgar S. Gorrell, will return to his position as general counsel.

Land, during his stay at the Maritime Commission, has favored participation by steamship companies in air transport. Officials pointed out, however, that as Commission chairman it was natural that he should promote water transportation. They further pointed out that steamship participation had not become the accepted policy of Congress and that Land should have no difficulty accepting the ATA post because of his past views.

At ATA's recent annual meeting, W. A. Patterson, president of United Air Lines, was returned to the board of directors of the association, and C. E. Woolman, executive vice president and general manager of Delta Air Lines was also elected. Patterson, who resigned from the board last year, and Woolman replaced Paul Collins, president of Northeast Airlines, and T. E. Braniff, president of Braniff Airways.

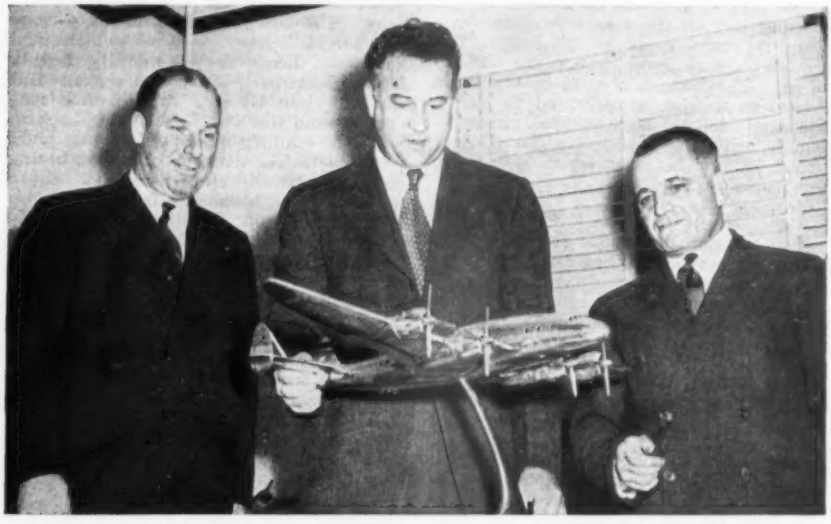
TWA, AOA Complete Exchange Agreements With Foreign Airlines

TWA and American Overseas Airlines last fortnight completed agreements with foreign flag operators, thus ironing out some operational problems for the U. S. carrier in Europe.

Considered most significant was the operating agreement between TWA and Air France, the French airline. Details were not disclosed since it was reported that the CAB was holding the agreement as a secret document. It was understood from some sources that the CAB had approved the deal.

American Overseas completed agreements with SILA, the Swedish intercontinental airline; with the Royal Norwegian Air Transport Service; with DDL, the Danish airline; with DNL, the Norwegian airline, and with KLM, Royal Dutch Airlines.

These called for mutual exchange of ground facilities on transatlantic services, but no traffic agreement was included in any form. AOA is to furnish shop and hangar space, parts stock, maintenance and servicing facilities, and complete passenger service to each of the signatories, and each in turn agrees to provide the same facilities for American.



Original TWA Threesome—The three founders of the Aero Corporation of California, Inc., a TWA predecessor, are back together again. After an absence of six years, Capt. Walter A. Hamilton, USNR, (left) has rejoined the airline, reuniting the threesome, including President Jack Frye (center) and Paul E. Richter, executive vice president. Hamilton is special assistant to Richter.

Jap Airline Had Hard Time Of It Toward End of War

Important Segments Had But Three Flights Weekly

(Editor's Note: The following story was written by Staff Sgt. Paul G. Sturges, a Marine combat correspondent and former public relations director of Southwest Airways, Los Angeles.)

MILITARY BLOCKADE of Japan was so effective in the latter stages of the war that Japan Airways Co., Ltd., once the largest airline in the Orient, was able to operate only a skeleton service.

Company officials at Fukuoka on Kyushu Island, key point of the line's far-flung wartime system, said that even such important segments as Tokyo to Fukuoka were down to three flights per week by mid-1945.

Flight operations were beset by almost every type of difficulty. There were shortages of aircraft, replacement parts and gasoline; Allied airmen strafed and bombed key installations throughout Japan; planes were shot down in the air and destroyed on the ground.

Today, Japan Airways faces a future full of uncertainties.

Application has been made to Gen. Douglas MacArthur for permission to restore service between Tokyo and Fukuoka, and aircraft have been readied for the inaugural flight.

Since the company has four DC-3's and one MC-20 ready or almost ready, it can only be assumed that officials project their optimism to future requests for extensions of service.

Just what will happen to other portions of Japan Airways' routes is not known.

Prior to the war, 12 cities on the Japanese home islands were served, some receiving purely local or domestic service and others being points on international routes. Of the latter, one extended south to Okinawa and Formosa, then southeast to Canton, China. Another crossed directly to Shanghai and Nanking, connecting with China National Airways at Nanking. A third reached to Changchum (Hsinking) in Manchuria, and a fourth, also originating at Changchun and connecting there with Manchuria Airways, made six stops in Manchuria and Korea enroute to the home islands.

During the war, the Canton route was extended south to Saigon, French Indo China, and to Bankok, Thailand. From Formosa, a line was run to Manila and Davao, splitting there into two routes. The first of these continued to Hollandia, Wewak and Rabaul, New Britain. The other extended into the Dutch East Indies to serve the Java points of Slavi and Batavia, then circled back to Formosa by way of Singapore, Saigon and Canton.

Company officials concede that it is extremely unlikely they will be permitted to fly any of the aforementioned international routes, either by Gen. MacArthur or the various governments concerned. Exchange agreements may be worked out with China, Korea and Manchuria, they hope, but these would come at some later date, if at all.

As indicated by the route mileage contained in the above system Japan Airways was no small organization. At its peak, the company operated approximately 260 aircraft. Of these, some 150 were standard Douglas DC-3's, purchased prior to the war. As operations were increased during military successes, the company added more than 100 Mitsubishi-built MC-20's to its fleet.

In the final stages of the conflict, ten Type 97 heavy bombers were converted and pressed into service, although these could carry only nine passengers.

The MC-20, which very closely resembles the DC-2 and was built originally for transport use, carries a maximum load of 11 passengers. It is powered with 1450-horsepower Mitsubishi Type 102 engines.

Crew of Four Used

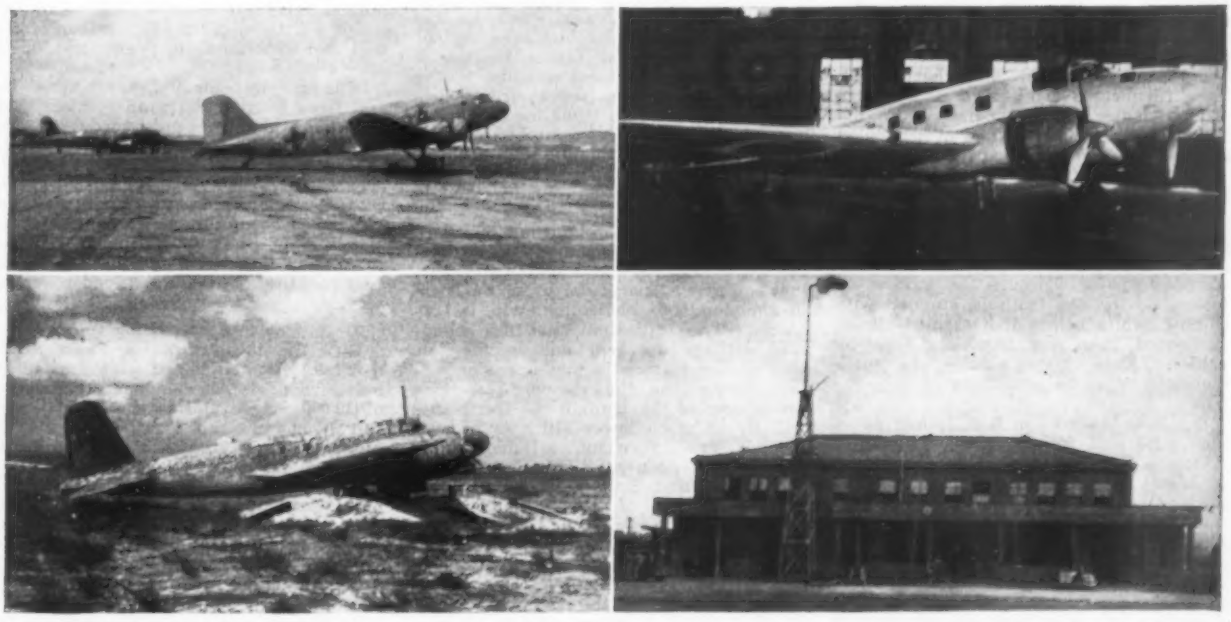
A crew of four—pilot, co-pilot, flight engineer and radioman—was used on all three types of aircraft.

Japan Airways, although it holds a complete monopoly on air travel in the northern Orient, is privately owned. Mail subsidies, reportedly large, are received from the Japanese government.

During the war, a priority system was in use on the system, with the government determining each passenger list. There was absolutely no travel by civilians except in connection with the war effort.

Although company officials stated they had not made use of any American aircraft or parts captured by Japanese military forces at airfields in the Philippines and other islands, this answer probably stemmed from a fear such equipment might have to be returned. Two crates found in one hangar which formerly had contained Wright Whirlwind engines definitely were not of pre-1941 vintage.

Masayoshi Miyamoto, ranking Japan Airways official in Fukuoka, asserted that all of the airline's personnel was trained in Japan, and that none had been sent to American flight or technical schools for specialized work.



UPPER LEFT—A "Jap" transport is pictured at the Gonussu Airport near Fukuoka, Japan, in readiness for the resumption of commercial flights by Japan Airways Co. This is a DC-3 purchased from Douglas Aircraft Co. by the Japs before the war. UPPER RIGHT—A Mitsubishi MC-20, of which more than 100 were operated by Japan Airways Co., is shown in a Jap maintenance hangar. LOWER LEFT—"Type 97" heavy bomber, many of which were converted by the Japs into transports capable of carrying nine passengers. LOWER RIGHT—This barn-like structure serves as the passenger terminal at the Gonussu Airport.

Southwest Airways Hopeful Of Inaugurating Feederline

Five Pilots Serving As Co-Pilots With Airlines

By GERARD B. DOBBEN

SOUTHWEST AIRWAYS of Beverly Hills, Calif., believes it has made out a case before the Civil Aeronautics Board for Feeder airline service and on that basis it is going ahead with its plans to operate a "bang-up" air transport service if and when it receives the "green light" from CAB. It has been recommended for Pacific coast feeder routes by CAB examiners.

That Southwest is going ahead with its plans is illustrated in the fact that five Southwest pilots are today flying as co-pilots for three certificated air carriers—TWA, Northwest and Continental—to obtain basic training in overall airline operations. These pilots are on the Southwest Airways payroll and will become the nucleus of the company's operating organization if CAB gives the company all or a portion of the extensive routes that it has applied for along the Pacific coast.

Significantly these three certificate airlines are at least nominal opponents to feeder airline operations but they are not putting all of their eggs in one basket. They reason that if Southwest Airways gets a certificate they want to be in a position to deal with Southwest on a reciprocal basis. Passenger travel "feeds" both ways. If Southwest carries passengers away from trunk line terminals, conversely it also will be able to carry passengers to these terminals. And what is probably even more important, if Southwest or any other Feeder line applicant gets a certificate, it is to the advantage of all of the presently established airlines that the company conduct a safe operation. For that reason, these certificated companies, as a matter of top policy, are cooperating in the training of Southwest pilots in scheduled airline operations.

Interview With Jim Ray

We were sitting in the office of Southwest Airways on Hollywood Boulevard conversing with James G. Ray, vice president of Southwest concerning the company's plans. Through the window we looked out on the foothills, studded with shining, white homes that seemed almost suspended from the mountain tops by cables. Even transportation to these mansions must be something of a problem.

But long-headed Jim Ray, former autogiro pilot and former vice president of Autogiro Co. used that ridge of foothills to dramatize Los Angeles' great need for feeder line air transportation. The mountains on one side, the ocean on the other has fixed the confines of Los Angeles growth. In addition, building restrictions relating to height, due to earthquake experiences, has contributed to make Los Angeles a city with more square miles of area than any other in the world. Its borders are some 35 miles apart and on all sides are scores of other bustling communities, all affected by the limitations of surface travel. Southwest wants to connect these cities with each other and with the trunkline terminals of the major airlines.

Southwest's plans are so far along that Ray believes that should CAB grant Southwest a certificate within the next month, the company possibly could start limited operations late next summer or early next fall. The company has about decided on the 14-passenger Lockheed Saturn, principally because it appears to be a good feeder transport and because he believes it is the first in sight. Ray has reason to believe that his company might receive its first Saturn within six or seven months after a certificate is granted.

Feeder Accident is Local Tragedy

Southwest, with approximately 2½ million dollars in assets behind it, has been doing a lot of intelligent planning based primarily on two considerations which it deems as essential in the successful operation of any airline. Touching on these points, Ray said that in his opinion, safety was paramount in feeder airline operations. Transcontinental airlines, he said, sometimes have accidents but their effect is somewhat minimized because the passengers involved come from all parts of the country. But a Feeder line accident would have far more serious repercussions because it would be more or less of a local tragedy. For that reason, Ray feels that two engine, two-pilot aircraft are absolutely essential.

The second important consideration is that feeder line flights must operate on schedule. Ray pointed out that transcontinental flights can be late an hour or two and the traveler won't be too disturbed but don't let him miss one of those transcontinental flights because a feeder line plane did not get him to the terminal on time. A feeder airline, Ray states, must meet the trunkline schedules, go when the traveler wants to go and where he wants to go and the business day, as far as feeder area travel is concerned, is a top consideration in scheduling arrangements.

To satisfy these two important considerations, Southwest has made some important studies. It has found that exacting equipment, particularly in the field of radio aids to navigation, will be required. The equipment that the scheduled airlines use will not do the job. One of the reasons is that a feeder airline cannot use the standard let-down procedures of the trunklines. The planes will fly at much lower altitudes because seconds are important in maintaining schedules between cities 50 miles apart.

Ray said that Southwest had explored the various types of radio equipment now available and added, "We feel we now know what the navigational equipment is going to be. We believe this equipment will permit us to complete 99% of our schedules. It will make possible the same kind of flying on instrument as on contact. The same pattern of flight will be followed on instrument as on contact," he stated.

He stressed that Southwest's operations envisioned the passenger-pick-up service. Under this plan, the plane would merely come down to a 20 foot height for air-mail pick-up when it was not necessary to land for passengers. Such a combination service was labeled as absolutely essential to speed up the service.

Asked whether the public mind was sufficiently prepared for the combination type of service, Ray was emphatic in stating that the pick-up operation is absolutely safe.

"Up until the 20 foot level is reached, the operation is the same as any normal landing procedure. The pick-up operation actually eliminates all of the hazards that are encountered below the 20 foot level, which include the actual setting down of the plane on the runways and the take-off until the 20 foot level is reached," he declared. He said that some 100 persons had flown in pick-up operations and that the public reaction was entirely favorable. He predicts public acceptance of the combination service immediately.

During the next few months, Southwest is continuing the study of the needs of the 247 towns and the 181 points in California, Oregon and Washington which it desires to serve. A wide variety of arrangements must be made before actual service can be inaugurated. Ray believes that if a certificate is granted Southwest, service in the San Francisco trade area would be inaugrated first, with Los Angeles second and Portland probably third. But all will depend on landing facilities, operating conditions and a dozen other matters that have to be arranged before service can be started.

If Southwest gets the certificate, one of the first things it will do is to recall its pilots now serving with the three certificated airlines. Based on their combined flight experiences covering several months flying in all types of weather and over all types of terrain, as well as their observations concerning flight procedures, dispatching, ticketing inter-office communications and even auditing, an attempt will be made to adapt this information and experience to feeder line operations.

"Through this method, we believe we will have learned the fundamentals back of scheduled flight procedures and we will modify them for our own particular use," Ray stated.

Ray believes every member of the Civil Aeronautics Board should visit the West Coast to obtain a better understanding of the limitations of surface travel and thereby gain a better knowledge of the need for a Feeder airline service.

All-Day Wait for Bus

Take the town of Santa Paula as an example, Ray explained. It's located 60 miles from Los Angeles, has a population of 10,000 people and is a wealthy town. But it has no rail transportation. Two busses operate into and out of Santa Paula a day. One leaves the heart of Los Angeles at 6:30 a.m., the other at 6:30 p.m. for Santa Paula. If you arrive at Lockheed Air Terminal at 7 a.m. and are dependent on public transportation, you wait until the evening bus.

"That's not a freak example either," Ray stated.

Southwest also has applications on file for helicopter routes. It proposes to use Sikorsky R-5, strictly on an experimental basis for carrying mail and express. Ray

believes that two years should be allowed for proving helicopter operations so that not only will it be possible to develop the aircraft but also operating procedures over specific schedules doing a specific job, day in and day out. Ray believes the Los Angeles area, as well as other metropolitan areas which have some open spaces are ideally situated for helicopter service.

During our conversation, we were briefly interrupted by Leland Hayward, the movie magnate, who is chairman of Southwest's Board of Directors. He stopped by the office to pick up the transcript of the oral argument before the Civil Aeronautics Board for some week-end reading. This argument represents the final step in the long procedural route to a CAB decision.

"We were flattered," Ray stated," that one of the major airlines devoted 50 of its 60 minutes to attacking the Southwest case while it briefly touched on the other dozen applicants for routes in the remaining 10 minutes. That helps us to believe we have a real case," he stated.

The other officers of Southwest are: John H. Connelly, president and Walter Roach, secretary-treasurer. The company has had an extensive war experience in the training of pilots, repair and maintenance of aircraft engines and carrying of freight and cargo by air between the various Army bases in this country.

More Airlines Reveal Plans to Buy Planes

The airline equipment picture continued its expansion trend last fortnight with at least a half-dozen carriers announcing plans for the acquisition of new transports in both the medium-range and long-range fields.

United Air Lines announced that it was currently studying five designs of new twin-engine aircraft prior to signing contracts for a fleet to implement its intercity services. Models on the list included the Martin 202, certain Boeing preliminary designs, the Consolidated 110, Douglas DC-8 and Curtiss-Wright CW-20.

Colonial Air Lines signed a contract with the Glenn L. Martin Co., for a fleet of 20 Martin 202s, specifying the 40-passenger model. W. A. Patterson, United president, was a visitor at the Martin Co., last week conferring with Martin officials on the same aircraft.

Pan American Airways announced contracts for the purchase of 20 Boeing Stratocruisers—a transaction involving more than $25,000,000, according to Boeing officials. Delivery was scheduled to begin November, 1946.

C. Bedell Monro, president of PCA, said that by Jan. 1, 1948, his company planned to have in operation a fleet of 10 DC-6s, 35 Martin 202s, and 10 DC-4s. Northwest made application to the Surplus Property Administration for 10 more C-54s in order to bring its fleet to 15 four-engine transports by next April 1.

Chicago & Southern said that the first of its fleet of C-54s would enter service next April 1. These are 56-passenger models.

Carriers Meeting Increased Demand for Air Reservations

Reporter Sees Firsthand On 7,000-Mile Air Tour

UNTIL the recent Office of Defense Transportation order went into effect whereby the airlines surrendered 70% of their space on east bound transcontinental flights, the certificated air carriers of this country were beginning to conquer the problem of meeting the increased public demand for air transportation.

Having just recently returned from a 7,000 mile air tour which took us to Los Angeles and back over the routes of five different carriers, we had an opportunity to see airline operations from the inside, beginning with reservation offices to practically all phases of ticketing procedures and flight operations.

We interviewed scores of ticket agents, traffic managers pilots and airline passengers and we came to one overall conclusion: the airlines are doing a magnificent job, under considerable difficulty, in meeting the demands of the traveling public.

When we left Sixth Street's "Air Line Row," in Los Angeles, three of the four airlines were notifying some 15,000 people that their reservations, covering a period from Dec. 3 to Jan. 10, were being canceled because of the ODT order. And generally speaking the reactions of the disappointed patrons were not too unfavorable. The vast majority agreed that soldiers from the Pacific area had first claim to whatever transportation might be available so that they might get home by Christmas.

The ODT order came at a most unfortunate time for the airlines although it may yet prove to be a blessing in disguise. Discontinuance of priorities figuratively caught the airlines with their flaps down. Many felt it would take time to win back the patronage of old customers who because of the priority situation had long ago abandoned all thought of air travel. But to the contrary, these customers came back much faster than was anticipated.

New Class of Travelers

In addition, a new class of air travelers entered the picture. Reduction in air transportation fares to a point where they were less, in many cases, than Pullman rail rates brought air travel within the pocketbook range of many new people. In addition, many civilians who had delayed travel for several years started showing up at airline ticket counters.

Thus, when ODT restrictions eventually are lifted, the airlines should be in much better position to handle the traffic. They now know a lot more about the traffic potential than they did a few months ago. The interim will give them time to enlarge their ticket and reservation offices, hire and train new traffic and ticketing personnel.

We stood in the middle of the block on Los Angeles' Sixth Street, between Olive and Grand Streets, from where we could see the ticket offices of the five major airlines operating out of Los Angeles. American's beautiful, new modernistic office in the middle of the block, only recently opened, already is too small. The main floor corner store at Grand and Sixth was boarded up. Behind the board walls, workmen were busy building a new downtown ticket office for TWA. On the opposite corner, at Sixth and Olive, a similar situation prevailed. Western Airlines is building greatly enlarged ticket and reservation offices. Across the corner, United Air Lines was making arrangements to take over two additional stores to enlarge its modern offices. On the same side of the street was Pan American's office for international travel.

AA Uses 'Sell and Record'

We spent an interesting half hour in American's control office at Los Angeles with Robert Eliot, the company's Los Angeles reservation manager. American uses the "sell and record," procedure, common to many airline reservation methods today. The prospective customer calls American's central switchboard and if he wants a plane reservation, his call is switched to the reservations control room.

Through use of a control sheet, one for each day of the month, the reservation clerks can see at a glance the number of seats that are open for any specific flight. If space is open for the flight desired, the customer is told that he has a reservation and is requested to pick up his ticket as soon as possible at either American's downtown office or the airport. At the same time, another space is blocked off on the control sheet for that particular flight. As Los Angeles controls east bound and Dallas west bound flights, close direct wire communication is kept between the two points on round trip requests so that there are not more seats sold than the flight will accommodate.

Eliot stated that this method has speeded up reservation procedures from 75 to 80%. The method was first used successfully in American's New York office. The Los Angeles office can handle some 26 to 28 calls at a time.

We watched ticketing operations at United's downtown office three or four times and here again we were impressed with the efficiency that has been developed in the handling of customers. Mrs. Lucille Butler, one of UAL's efficient clerks, explained that the flight manifest was prepared, to the extent possible, in the downtown office and sent just ahead of flight time with the airport limousine, carrying airline passengers, direct to the Lockheed Air Terminal. This eliminates to a great extent any bottle neck at the airline terminal offices when "No-Show" space is being filled by "Go-Shows." When passengers from the downtown office arrive at the airport, except for checking in, they are ready to board the plane.

The inter-line book ticketing procedure, inaugurated by all of the domestic carriers Oct. 1, has enabled clerks to ticket passengers in one third of the time over the old "railroad" ticketing method

whereby the routing might have to be written from five to 10 times. The back of each ticket has a carbon paper surface and one writing carries through three tickets. When a passenger boards a plane he surrenders one of the tickets, gives up the others as he transfers to planes of another airline.

Everyone of the more than 30 ticket clerks that we interviewed praised the new book ticketing procedure and hoped it would be extended to on-line operations. Some said that where as much as one hour had been consumed in a complicated inter-line routing under the old process, the work now has been reduced to 10 minutes or less.

During our trip, we observed women with babies on almost every flight. We asked many of them why they liked air travel better than any other form of transportation and the answer was the same: "Quicker and cleaner." They were thinking in terms of the difficulties a mother encounters when traveling with youngsters.

Babies on planes have added considerably to the work of the hostesses but generally they seemed to enjoy their youthful passengers. All of the hostesses were solicitous of the comfort of mothers and babies. Even the pilots who came back through the planes occasionally paid attention to this new class of pessengers. There were two small babies on the American plane between Tucson and El Paso and while passengers at their noonday meal aloft, the hostess held one baby and Capt. Melvin Logan held the other while the mothers ate.

On the flight from New Orleans to Atlanta, we became weathered in at Montgomery, Ala., arriving there about 1 a.m. in the morning. This plane load of passengers, included four mothers with babies ranging from a few months to two years. As no hotel rooms were available in Montgomery, the passengers spent the night aboard the plane on the airport and none seemed disturbed that the infants acted as an alarm clock between 4 and 5 a.m. Eastern's handsome first officer, P. J. Hudson relieved Hostess Eloise Brawley by heating the milk bottles. At 5 a.m. passengers were loaded in taxis provided by Eastern, taken to Montgomery for breakfast and returned to the airport at 7 a.m. for an 8 o'clock departure for Atlanta.

Pictured above is one small section of American Airlines' busy reservation office in downtown Los Angeles. This is part of the set-up whereby American keeps telephonic sales and recordings over 26 lines operating efficiently at a time when the demand for air travel reservations has been unusually heavy.

In interviewing passengers from one end of the country to the other, we tried to find a real gripe against air transportation. We discovered none. Most passengers expressed the hope that airline travel congestion would diminish soon but most of them understood that it was an equipment problem.

A Houston chemist, who rides airlines constantly in the mid-west area, said the only fault he had to find was lack of either honesty or accuracy on the part of some airline reservation clerks in reporting weather conditions ahead. He stated that a business man wants all of the facts regarding possible weather delays so that, if necessary, he can resort to ground transportation to keep an important business engagement.

We told him of our own experience in New Orleans which was quite different. The Eastern reservation clerk told us frankly that she did not think the plane would get to Atlanta because of weather making up along the east coast. She said we might get to Birmingham, possibly no farther than Montgomery. Ten minutes after arriving in Montgomery, the fog had blanketed the airport and visibility was down to nil. So we stayed in the parked plane for the night.

A Cleveland business man, headed for El Paso, sat alongside of us on the flight between Chicago and Oklahoma City. It was his first trip on an airplane. He was a bit nervous because of slightly turbulent air. In our conversation, he revealed his further anxiety by saying, "I'd hate to think what would happen if one of those engines quit." We explained to him that these transport aircraft have single-engine performance. This relieved him immediately and from then on he seemed to enjoy the flight.

The most thrilling segment of our flight was on TWA from Amarillo, Texas to Los Angeles. We left Amarillo on Thanksgiving morning as the sun was coming up in a blaze of splendor. Hostess S. Ritchie pointed out to the passengers Conchas Lake, the extinct volcanos, the Meteor Crater and soon after leaving Winslow, Ariz. the rim of the Grand Canyon.

Then for nearly 35 miles, Capt. P. R. Zell and First Officer J. F. Selby flew the ship along the edge of the canyon, maneuvering the plane in such a way that the passengers got the full benefit of the dazzling sun on the variegated coloring in the rock formations below. Over Boulder Dam, the ship was brought down to a comparatively low level and a complete circle was made of that great powerhouse for the benefit of the passengers. Later we passed over Muroc Lake (Dry Lake) and over to the right was Mt. Whitney—highest point in the Sierras.

While viewing these glories of nature, Hostess Ritchie served the Thanksgiving Day dinner. The special printed menu on the tray looked like the offerings of the Waldorf-Astoria. From then on the scenery had to compete with turkey, dressing, cranberries and all the trimmings that go with the traditional Thanksgiving Day meal.

During the war, TWA discontinued this scenic tour of the southwest and because of space conditions has not advertised the resumption of the flight. Undoubtedly it is one of the most thrilling stretches of air travel anywhere in America.

We flew stretches on five efficiently operated airlines in the following order: American (Washington to Oklahoma City), Braniff (Oklahoma City to Amarillo), TWA (Amarillo to Los Angeles), American (Los Angeles, San Diego to Houston), Delta (Houston to New Orleans), Eastern (New Orleans to Washington) and without revealing our identity or the purpose of our trip, we universally received courteous treatment and the highly personalized service that the airlines have developed far beyond all other forms of transportation.—*G. B. D.*

From "Eddie" Stinson's

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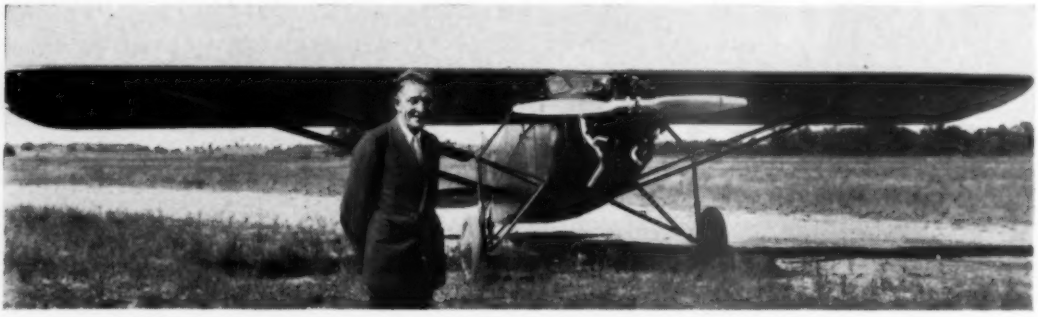

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Swiss Airline Moves Fast To Reopen All Operations

Hurt by War Like Every Other European Airline

ZURICH, SWITZERLAND — Although handicapped for lack of equipment, Swissair is getting its European services back into shape with a rapidity which is only excelled by the Swedish Air Lines. No youngster in air operations, Swissair was one of the top operators before the war and was among the users of Douglas DC-3 equipment.

Swissair, with headquarters at Dubendorf Airport near Zurich, was hurt by the war like every European airline although it lost no equipment and suffered no material damage. For quite some time it continued to operate a DC-3 every day between Zurich and Stuttgart, but even this service was stopped when the war got hot.

Even with the complete stoppage of air service, Swissair managed to keep all of its employes throughout the war by undertaking repair work for the military air force. Thus it enters the postwar period with its staff intact.

Swissair is currently operating almost daily between Zurich or Geneva and Paris, from Zurich to London, to Amsterdam and to Malmo, Sweden. It has no shortage of ambitions for other services, including Cairo, Madrid, the United States and to various other points in which Swiss nationals have interests.

Its current equipment consists of four DC-3s and two DC-2s, all equipped with G-100 Wright Cyclone engines. The company is trying to get new engines and spare parts which it has been without since before the war. It has about 155 employes, of which 120 are mechanics and technical.

Swissair is trying to purchase another DC-3, and wants a 30-passenger type for future services. Because communications have been so poor, Swissair isn't up to date on the various new transport projects in the U. S., but has heard of the CW-20 Commando and thinks this is about the right type.

Messmer Ehinger Brunner Groh

E. E. Groh, president; Capt. Francis Zimmerman, Chief pilot, and Fred Brunner, engineer, are scheduled to fly to the U. S. shortly to study the equipment problem and probably to make some purchases. Dr. Alphous Ehinger, chairman of the board of directors, is lending direction to the program.

Swissair wants to fly to the U. S. but would prefer to get some of its other services resumed first. Despite talk of using the Martin Mars flying boat, this is a remote possibility at present.

Charles Messmer, in charge of foreign traffic matters, and Hans Appli, of the traffic department, are optimistic about air traffic for Europe. Both say that traffic demands are far greater than the airlines can handle at present and will probably continue good. They believe the war will result in much greater use of airlines throughout the Continent and that volume travel will come into existence for the first time.

Dubendorf Airport has a very good terminal with excellent restaurant and bar. Swissair offices are on the second floor of the terminal, and the company maintains about three hangars which are equipped with shops for instrumental and engine overhaul. While the facilities are not extensive, they are complete for an airline maintaining a half dozen aircraft.

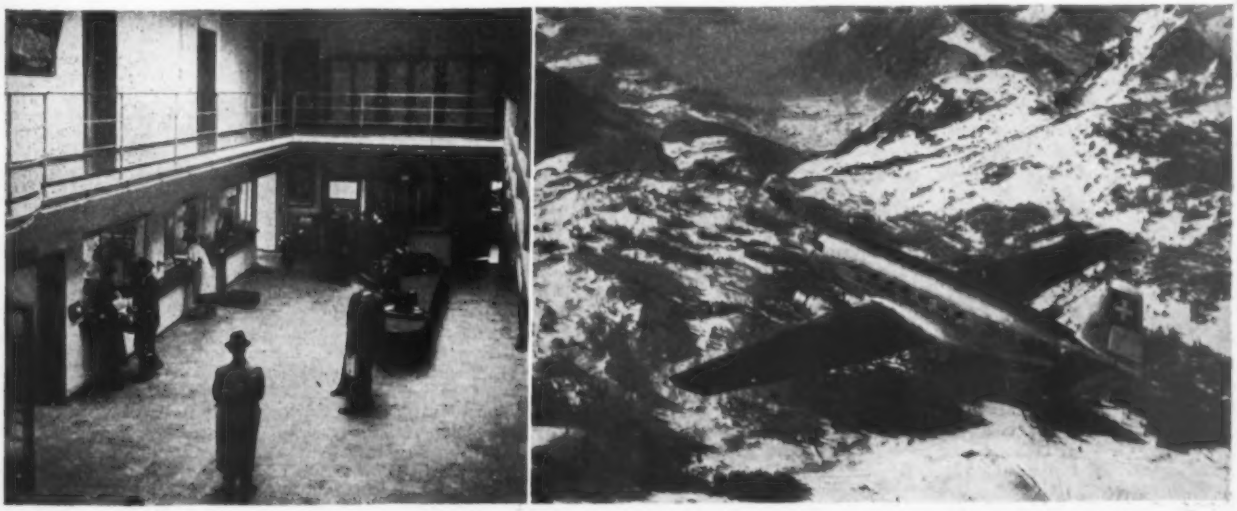
Geneva is used as a terminal for some flights, but Zurich is the best city from a traffic standpoint.

Swissair at Zurich is using the Lorenz blind landing system and the company believes it has the only installation in use in the world at present. So familiar are its pilots with the system that planes land with ceilings of just slightly above zero-zero. Landings are made when visibility across the airport is impossible. Most American airline men would shudder to learn of the operating conditions, yet Swissair's record is exceptionally good. There has never been an accident from weather.

Dubendorf Airport is sod but there is a partial runway of concrete for take-off and landings. It extends for perhaps a thousand feet or so. The usable field area is about 4,000 feet—not good enough for four-enginer equipment.—W. W. P.

Sheep Control

Cointrin Airport, Geneva, Switzerland, is one of the most attractive airports in the world. White concrete runways contrast sharply with green turf which is kept well mowed by a herd of sheep. A sheep dog has been so well trained that when an airplane is landing or taking off, he rounds up the sheep and keeps them well off the runways and well bunched up, and he does this without even a nod from the herder. Result is a well-manicured field without slightest traffic hazard.



Main Hall, Zurich Airport (left) and a Swissair Douglas DC-2 over typical Swiss terrain.

Recovery of German Aviation Possible—Outside Germany

This Should be Watched Carefully, Editor Says

By W. W. P.

PARIS—If one asks whether aviation in Germany will recover, the answer is very simple.

It won't recover very soon. Military aviation has been wiped out. German aviation brains have been taken into Allied countries and put to work for "the other side". There will be no civil aviation of any kind for quite a spell.

But it is a very great error to think only in terms of aviation in Germany.

A better question is: Will German aviation recover?

For German aviation can keep alive outside of the confines of Germany—and this is the point to be carefully watched.

There is reason for watching, for certain clues have been found to indicate that German aviation did some planning before the final collapse of Germany. There is reason to believe that German aviation will make the same sort of endeavor it made after World War I to keep alive until the proper time comes for it to come into the open.

There are two vital forms which this aviation can take—and there is evidence (secret, so far) that German aviation money has been provided for each.

One is airlines. The other is periodicals and books for propaganda purposes.

Remember 1919? It was just one year after the close of World War I. There was no aviation left in Germany. The victors saw to that. But in 1919 an airline known as SCADTA started in Colombia, South America. It became a highly-organized and efficient airline and subsequently was tied in with the German Condor system in other South American countries and with the vast Deutsch Lufthansa system which the Allies permitted Germany to build after World War I was forgotten.

It was SCADTA which kept German aviation alive—it was the link by which the Germans kept in touch with air transport and aviation developments the world over.

I have now traveled in four out of the five neutral countries of Europe. It doesn't take much digging to find that there are plenty of Germans still roaming about the Continent, that there is German money cached away in neutral places, that German aviation has some sturdy sympathizers who are considering business as usual" now that the last shot of war has been fired. I have talked with such sympathizers—it is obvious that they believed German aviation to be the world's best and that only the superior *productive* capacity of the U. S. (not brains) and the stupidity of German political leaders caused the recent demise.

It will be interesting to see what happens. It is much too early to disclose any facts, or even hints, but there is at least one air transport project somewhere in the world that has some German aviation money tied up in it. Undoubtedly it will seek U. S. equipment since this is the only equipment immediately available. It has plenty of money—some of it in the U. S.

As for German money being used for propaganda purposes, the answer is definitely yes. It will soon be in evidence. Various people will call the shots when the time comes.

If German aviation is to be held down tightly, the places to look for revivals is not within Germany itself. The money isn't there. Neither are the men who were smart enough to get out when the exiting was healthy. Neither are the pro-German contacts in so-called neutral countries.

The one thing which will probably defeat the airline project is international governmental reins as provided in PICAO, that is if we don't forget too soon that there has just been a war. The reason PICAO can be successful is because certain people have found out a few things which German aviation interests didn't think they knew. But don't ever think German aviation is dead. It isn't.

ODT Hopes 100,000 Vets Can Fly Eastward Monthly

The Office of Defense Transportation disclosed last fortnight that it was seeking means to boost to 100,000 a month the number of servicemen being transported eastward by air from the West Coast, but no immediate means of solution to the problem was seen.

Present air transport arrangements are providing for the movement of 53,000 men a month. This is being accomplished under the 70% space allocation by the commercial airlines, which handles 21,000 a month; the military transport system, handling 16,000, and the commercial carriers' Trans-Con project, handling 16,000.

Spokesman for both the transport industry and the Army and Navy have expressed opposition to the use of additional military aircraft in the deployment program, primarily because of the lack of qualified military pilots. ODT emphasized that it needed the 47,000 additional seats per month at the present time not several months hence, when it might be possible for the commercial carriers to take on the additional loads.

The 70% allocation of space for eastbound military personnel, meantime, left West Coast reservations offices snowed under by the physical task of notifying civilian passengers of removals. American Airlines alone counted more than 3,000 removals for December bookings.

Of 666 airline seats taken over for the return of military personnel from the West Coast, 340 have been allocated to the Army and 326 to the Navy.

Named V. P. of League

Cmdr. Thomas M. Jones, United States Navy (Ret.), has been named a vice president of the Air Power League. He joined the organization's administrative staff on Dec. 1.

Outcome of American-Russian Civil Air Relations Important

BERLIN—What happens with American-Russian civil air relations in Berlin may well affect the world for a long time to come.

Berlin is the most important aviation center in the world today. As such it deserves far more attention from top Washington circles than it is getting. Airways need to be established. Skilled airport surveys need to be made.

The small group of men in Berlin who are conscientiously trying to do a job—and believe us, very few Americans are really working conscientiously in Germany today—need to be backed up with proper tools. Berlin merely proves again that what is needed in Washington is a very strong coordinator for civil aviation, a high executive post with power to plan and act.

In this Berlin aviation melting pot, Gen. Robert W. Harper is the director of the armed forces division of the U. S. Group Control Council, whose functions are to make and carry out aviation policies. Gen. Harper's Russian counterpart is Lt. Gen. T. F. Koutsevalov, a handsome, well-educated Russian aviator who likes sports and hunting, and who neither drinks nor smokes, and who is trying as hard as Gen. Harper to learn the other's problems and desires to meet him half way.

There are lots of unpleasant "incidents" and arbitrary actions by the Russians. But it is very amazing that week by week these problems are being ironed out and a problem which evokes the greatest bitterness by an American one day may not even exist the next morning. It has been very tough to fly over any territory occupied by Russians, but gradually the Russians are making concessions, gradually there is a common understanding being reached.

If one learns at close range in Berlin that sane and sensible progress is made, one also learns that Washington is far from comprehending the problems. First of all it has established in Germany an impossible maze of military setups. Secondly, it is permitting incompetent military combat personnel to handle postwar jobs instead of sending them home where they belong. Thirdly, it is permitting to continue a vast amount of strife among AAF units featured by jealousy, bickerings, rivalry, childish grasps for power—all of which is topped with plain ordinary incompetence and lack of understanding of the job to be done.—*W. W. P.*

FIVE HUNDRED MILES from Base, the Catalina crew sighted a Jap task force! Frantic Jap carrier fighters made attack after attack. Inside a wounded radio operator struggled to repair his shattered transmitter. Painfully his fingers beat out an emergency—alerting all American naval forces. He kept on sending until the disabled "Cat" crash landed into the sea... On the life raft he still stuck to the job—cranking out S.O.S. on Gibson Girl, the emergency set, until his crew was rescued.

He was 22 years old—and what he did took more than guts... it took plenty of knowledge and skill. Command, liaison and interphone radio sets, radio compasses and navigational aids and radar devices were the tools these men worked with.

. . . . .

He and tens of thousands like him have mastered new, complex and varied skills... and hold within them magnificent promise for the future of American aviation.

His finger is on the pulse of tomorrow...

ESSO AVIATION PRODUCTS *have been proved a thousand times over in the terrific stress of war. Take RUST-BAN 392 ... a solvent type which leaves a thin, almost invisible yet highly protective coating. It contains a neutralizing agent to counteract acid corrosion from human sweat that might occur during handling of parts after manufacture. From Rust-Bans and special lubricants to jet engine fuels, you can depend on* ESSO AVIATION PRODUCTS.

Lend-Lease Phases Are Being Settled With Great Britain

The State Department and representatives of the British government were engaged in discussions pertaining to settlement of certain phases of Lend-Lease operations involving disposition of transport and executive type aircraft as this issue went to press.

Britain, the records reveal, obtained 1861 C-47 type (DC-3) transports and is understood to be interested in purchasing approximately 50 of them for use on its domestic lines. Surplus Property Administration prices are being used as a basis for settlement negotiations.

While Britain is charged with 1861 of the C-47 type under Lend-Lease, the actual number involved in the settlement is possibly 20% less due to attrition. When a settlement is reached with Britain, negotiations will be opened with other Lend-Lease beneficiaries. The next largest batch of C-47 planes—708 in number—went to the Russians under Lend-Lease. A total of 3,022 C-47 planes were sent to the Allies of this country under Lend-Lease.

A tabulation of Lend-Lease transport and executive type planes and the countries that received them follows:

	C-45	C-46	C-47	C-53	C-60	C-61	C-64	C-78	C-87	C-54
Australia	...	..	133	..	10	...	14	...	..	..
Belgian Congo	...	..	....	..	5	...	..	...	..	..
Bolivia	...	..	4	..	..	...	..	...	..	..
Brazil	8	..	11	..	8	...	17	33	..	..
Great Britain	417	..	1861	6	15	810	4	...	24	11
Canada	28	..	47	..	22	...	34	...	..	..
Chile	2	..	....	..	..	...	..	...	..	..
China	...	23	69	..	..	...	..	13	..	..
Colombia	1	..	1	..	1	...	..	...	..	..
Cuba	2	..	....	..	..	...	..	...	..	..
France	25	..	52	..	11	...	..	95	..	..
Netherlands	...	..	23	..	6	...	..	...	..	..
Netherlands, W. I.	...	..	....	..	2	...	..	...	..	..
New Zealand	...	..	49	..	10	...	..	...	..	..
Norway	...	..	7	..	8	...	8	...	..	..
Paraguay	2	..	....	..	..	...	..	...	..	..
Russia	...	1	708	..	..	...	..	...	..	..
Union South Africa	...	..	57	..	..	...	..	...	..	..
	485	24	3022	6	98	810	77	141	21	11

Col. Marrs in Sweden

The commanding officer for ATC in Stockholm is Col. Maurice Marrs, a 14,000-hour pilot with plenty of aviation background. He started flying in 1927 and was the first pilot Braniff Airways ever had—when the airline consisted of one plane and one propeller and when Paul Braniff took the passengers to and from the old Oklahoma City field in his own car.

Marrs flew three times daily between Oklahoma City and Tulsa, so much, in fact, that he felt like a trolley pilot and one day he simply got "fed up", as he says, and when he landed the plane at Oke City he left it and the passengers at the far end of the field and walked home. He said he just couldn't taxi the plane to the hangar. The CAA suspended him for 30 days, but he went back to flying the Tulsa run.

From 1930 to 1939, Marrs flew for United Air Lines, then joined KLM, Royal Dutch Airlines, where he remained until the war closed down KLM. He's undecided what he will do when he gets out of the Army. KLM wants him back and he's had several offers from the States. He's done a good job in Stockholm, likes the Swedes and they like him.

Incidentally, there is a girl in public relations who works for Marrs who ought to be a find for any airline. She is petite, vivacious Bobbie Lindblom, a Swedish girl who knows about five languages fluently. She speaks English like nobody's business, speaks French like a native, also Italian, Swedish and one or two others. She wants to go to New York, likes air transportation.

Ninth Wright Bros. Lecture To Feature Dr. Harold Cox

The Ninth Wright Brothers Lecture, presented Dec. 17, 1945, in the U. S. Chamber of Commerce Auditorium, Washington, D. C., by the Institute of the Aeronautical Sciences will feature Dr. Harold Roxbee Cox, v.p. of the Royal Aeronautical Society, speaking on "British Aircraft Gas Turbines." Prepared comments will also be offered by: Col. Donald J. Keirn, chief of the power plant laboratory, Engineering Division, Air Technical Service Command; Carleton Kemper, executive engineer, aircraft engine research laboratory, National Advisory Committee for Aeronautics; R. P. Kroon, manager of engineering, aviation gas turbine division, Westinghouse Electric Corp.; Donald F. Warner, assistant designing engineer, aircraft gas turbine engineering division, General Electric Co.

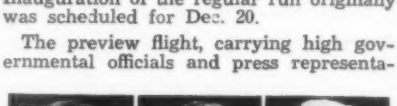
Raymond to Head IAS

Arthur E. Raymond, of Santa Monica, Calif., will head the Institute of the Aeronautical Sciences for 1946, succeeding Charles H. Colvin, retiring president, it has been announced. Raymond is vice-president-engineering of Douglas Aircraft Co., which he joined in 1925.

TWA Gives Preview Of Washington-Paris Service; Ready Soon

TWA introduced its transatlantic service with a Washington-Paris preview flight last fortnight, but announced that regular commercial service would not begin until the first week in January. Inauguration of the regular run originally was scheduled for Dec. 20.

The preview flight, carrying high governmental officials and press representatives, established a new transatlantic record between Gander, Newfoundland, and Shannon airport, Ireland, flying this leg of the trip in six hours, 27 minutes, TWA said.



Desautels Mazzarini Tamim

Meantime, TWA announced perfection of its International Division.

On the Division's foreign staff will be Royal Robert Jordan, regional manager for France, Belgium and Holland, with headquarters in Paris; Richard Mazzarini, for Italy, with headquarters at Rome; Pierre Desautels, for Switzerland, at Geneva; Khalil A. Tamim, at Cairo; Robert Montgomery, for England and Scotland; John Logan, for Eire, at Dublin.

Veteran pilot Harold F. Blackburn, director of TWA's intercontinental operations under ATC contract since last January, has become director of the Atlantic Region. Superintendent of Flying Operations is W. G. Golein, pilot and operations man for TWA during the past 15 years.

The Division's publicity director is Eugene Patterson Warner. Stanley Schlenther has been appointed director of advertising and Walter Brown, Jr., as director of passenger sales.

Other developments on getting international routes into operation came from Pan American Airways, which dispatched a survey flight from New York Dec. 5 on a 20,000-mile trip to Calcutta and return. Two dozen technical experts were aboard the C-54 to determine what airports and facilities are available for commercial passenger service.

Arrangements for passengers to transfer to the national lines of the countries to which Pan American will provide service also were to be worked out, PAA said. Traffic experts also were to designate sales agencies for Pan Am in the various countries.

Airports to be visited included Paris, Marseilles, Brussels, Frankfurt, Prague, Vienna, Belgrade, Rome, Athens, Instanbul, Ankara, Damascus, Bagdad, Teheran, Karachi, and Calcutta.

Merger of ANA-Guinea Airways Still Possible

Subject of Extended Debate in Australia

ALLEGED attempts to merge Guinea Airways with Australian National Airways (ANA) have been the subject of extended controversy, it is reported from Australia. A special general meeting of Guinea Airways shareholders was called on the initiative of two shareholders, Donald Reid and Capt. Robert Godsall, for the purpose of voting out the present directors whom some charge with submerging the company to the interests of ANA. A motion to oust the directors was defeated, however.

Last January a proposal that Guinea Airways merge with ANA was rejected. The then directors resigned as a result and elections were held for the vacant seats on the Board. At an election in March, a panel nominated by Reid was narrowly defeated. Immediately upon election, the new Board entered into further merger negotiations with ANA, according to Australian reports, but subsequently dropped them in favor of a "working arrangement".

Under the arrangement, the staff of Guinea Airways has been reduced from 200 to 20 and all maintenance, dispatch, booking and flying operations for Guinea Airways have been made the responsibility of ANA. Reid and Godsall asserted that this arrangement is an effort to circumvent the necessity for approval of shareholders to a merger, since it was clear to all, they contended, that such an approval would not be forthcoming. They charged that Guinea Airways staff and activities were being so dismembered that shareholders, when merger proposals were brought before them again, would have no option but to accept them, Guinea Airways would by then have no engineers or staff with which to carry on by itself, they said.

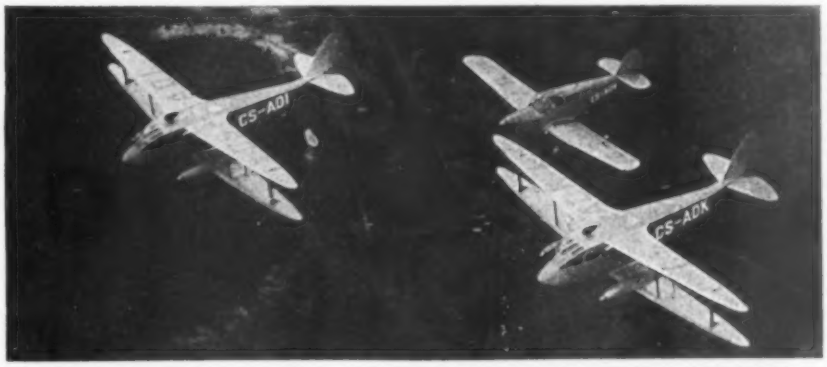
On the other hand, the directors declared that, when they took office, the company was losing at the rate of £36,000 a year and that, under the "working arrangement", they had so reduced expenses that present losses were at the rate of no more than £4,000 a year.

A motion was put to the meeting to request the directors' resignation. A show of hands was strongly in favor of Reid but the directors had sufficient proxies to defeat the motion by a vote of 75,433 to 65,388.

Two Branches of Argentinian Airline Are Merged Into One

Lineas Aereas del Estado (LADE), Argentinian airline formerly divided into two branches—LASO or Southwest Lines, and LANE or Northwest Lines—will henceforth be known by the LADE insignia alone, according to the Argentine Department of Aviation.

The Department also has announced that the experimental branch line between Posadas and Resistencia has completed its preliminary work. With completion of ground installations, permission has been granted the line to carry passengers and freight. LADE plans to use Lockheed Electras and Junkers Ju-52s.



First British Civil Exports—Two de Havilland Dragon Rapides and one Percival Proctor leaving Witney, Oxfordshire, on the first leg of a delivery flight to Lisbon. These are believed to be the first civil-registerd aircraft sold by commercial contract and exported from Great Britain since the end of the war. Previous sales had been chiefly from military surplus. Three de Havillands and the Proctor were bought by Companhia des Transportes Aereos, a newly organized airline which will provide the first domestic scheduled air service in Portugal, beginning with a route Lisbon-Oporto. Story on the organization of the airline appeared in AMERICAN AVIATION Oct. 1, 1945.

PICAO Council Asks France, Egypt, U. S. To Convene Regional Civil Air Meetings

As one of its last actions before recessing until January 21, 1946, the Council of the Provisional International Aviation Organization (PICAO) asked the governments of France, Egypt, and the United States to convene regional civil aviation meetings, it was announced in Montreal by PICAO Council President Edward Warner. It was also decided that the first meeting of the PICAO Assembly, scheduled for May, 1946, is to take place in Montreal.

France is to arrange a conference for the European-Mediterranean region, Egypt for the Middle East, and the United States for the Caribbean area. Dates for these meetings have not been fixed but it is expected that they will follow soon after the meeting tentatively scheduled for April 8 by Eire for the North Atlantic conference. The regions have been defined as follows:

European-Mediterranean. All of Europe and the countries bordering the central and western sections of the Mediterranean Sea.

Middle East. The countries bordering the eastern Mediterranean (including Egypt) and bordering the Red Sea and beyond to and including the western portion of India.

Caribbean. The countries bordering the Gulf of Mexico, all the nations of Central America, the West Indies, the Bahamas and South America north of the Amazon River.

Four additional new conference areas were suggested for action at the earliest convenient dates that would not conflict with or hamper any program for the foregoing three conferences which, together with the North Atlantic, are generally regarded as having a priority on PICAO consideration. The four additional areas are:

South Asia-Australasia. India, southern China and the lands and islands to the south to and including Australia and New Zealand.

South Atlantic. The coast of Brazil, the Guianas, Trinidad, the southern part of the Atlantic Ocean east of Africa and the west coast of Africa from French West Africa to the Belgian Congo, both inclusive.

South Pacific. The Pacific area embracing the west coast of North America from Vancouver south, stretching westward through the Hawaiian Islands to and including the east coast of China south of Shanghai, the Philippine Islands, Australia, New Zealand and the Fiji, Cook, Phoenix, Society and other island groups of the South Pacific.

North Pacific. The west coast of North America, the North Pacific Ocean and the east coast of China north of Shanghai. This conference is also to include the Hawaiian Islands. It was felt that this area represented the least urgency, and action should await some indication of government and operator interest.

Agenda for these regional conferences include: determination of the type and location of air navigation facilities for international operations; the problem of discontinuance of military facilities useful to international civil aviation; the application of PICAO's newly developed standards and practices to local situations; decisions on the nation or group of nations to be responsible for maintaining certain facilities.

Denmark and Honduras have ratified the Interim Agreement and thereby are now members of the PICAO Assembly, bringing the total membership of the organization to 39. Both governments ratified the agreement on November 13 but the official notices were not received at PICAO headquarters for several weeks.

The life of the special Legal Subcommittee of the Council's Air Transport Committee was extended through the forthcoming recess. Quite a number of recommendations of the Air Transport Committee were adopted by the Council, including:

1. Approval of the procedure worked out by the Committee for the filing of air trans-

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1. Western Electric products are designed by Bell Telephone Laboratories—world's largest organization devoted exclusively to research and development in all phases of electrical communication.

2. Since 1869, Western Electric has been the leading maker of communications apparatus. During the war this company was the nation's largest producer of electronic and communications equipment.

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equipment leads the way!

have also developed scientifically accurate instruments for *measuring* and *analyzing* sound and vibration. These instruments have many important uses today—will have still more tomorrow.

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knowledge in all of these fields

port agreements by the participating governments;

2. Circulation by PICAO of a monthly list of agreements filed;

3. Copies of agreements to be made available, but only to the governments of member-states upon specific request;

4. Analysis and study of these agreements by the Secretariat's Legal Studies Section, to which Eugene Pepin of France has recently been appointed as chief. The results of such study are primarily for the purpose of aiding the Air Transport Committee in its consideration of the problems of a multilateral agreement;

5. Whenever the form of bilateral agreements differs from the standard form adopted at Chicago, the matter is to be automatically referred to the Secretary-General for study and report to the Air Transport Committee;

6. A manual of procedure in PICAO arbitration cases is to be undertaken in the near future.

The PICAO Council scheduled the first meetings of four new technical subcommittees as follows:

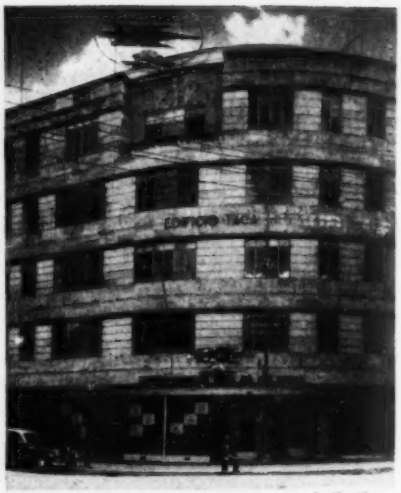
Personnel licensing, Jan. 15; accident investigation, Jan. 20; facilitation of international air transport, Jan. 24; airline operating practices, Jan. 30.

The name of the proposed Customs Division was changed in the same resolution to Facilitation of International Air Transport to broaden jurisdiction to take in every type of foreign trade, travel, and immigration regulations, sanitation, quarantine, monetary restrictions, etc. which affects air transport. This division is to consider the improvement and application of Annex K (now Standards K) on Customs Procedure and Manifests adopted at the Chicago Conference.

PICAO also created two new Council committees, one on Publication and one on Personnel, each to consist of five members. A revised schedule of personnel for PICAO was issued, which included for the first time a technical staff for the Airworthiness Section of the Air Navigation Bureau. Positions and grades are still unspecified but staff expenditures are limited to $25,000 annually. Staff for the Legal Section of the Air Transport Bureau was also listed. The Council authorized President Warner and Secretary-General Roper to alter as desirable the existing personnel charts with the approval of the Finance and Personnel Committees during the period of the Council recess.

Air France—Cruzeiro Agreement

Air France and the Brazilian airline Servicos Aereos Cruzeiro do Sul are reported to have entered an agreement to "support a program of intimate collaboration in the air services between South America and France." One of of the provisions is that Air France receives the right to carry all mail and cargo from France destined for Brazilian cities served by Cruzeiro. The French company may also sell passenger tickets for Cruzeiro's domestic routes.



TACA Office in Bogota—Indicative of the rapid expansion of TACA Airways is this photo of the airline's headquarters in Bogota, Colombia.

2-Engined Executive Aircraft Announced By British Manufacturer

A new twin-engined executive type aircraft to be known as the Percival Merganser is now under development by Percival Aircraft, Ltd., Bedfordshire, England, according to reports from AMERICAN AVIATION's London Correspondent.

The Merganser is an all-metal, high-wing monoplane with retractable tricycle landing gear, which will carry five passengers and 300 lbs. of luggage in addition to the pilot for ranges up to 750 mi. The cabin is said to be exceptionally roomy providing 55 cu. ft. of space per passenger. It is 9 ft. 6 in. long, and has an average width of 5 ft. 6 in., and a 6 ft. clear height at the center aisle.

The Merganser has a span of 47 ft. 9 in.; length of 38 ft. and overall height of 14 ft. 5 in. Wing area is 319 sq. ft.; main gear tread 15 ft., and fuel capacity 106 imp. gal. The craft has a weight empty of 4,232 lbs. fully equipped, and a design gross weight of 6,532 lbs., permitting a useful load of 2,300 lbs. It is powered by two De Havilland Gypsy Queen 51 engines rated at 296 hp each for take-off at sea level and 312 hp each for take-off at 4,700 ft. Propellers are of constant speed type.

Estimated performance figures show a top speed of 180 mph at sea level and 194 mph at 5,000 ft.; an economical cruising speed of 152 mph at sea level, 163 mph at 5,000 ft. and 170 mph at 8,000 ft. and a stall speed with flaps down of 65 mph. Rate of climb with full power is 1,360 ft./min. at sea level and 1,400 ft./min. at 5,000 ft. Service ceiling is 20,000 ft. and take-off run to clear a 50-ft. obstacle in still air 1,410 ft. With one engine inoperative and the propeller windmilling, the Merganser has a 6,000 ft. ceiling with cruising power.

British Air Journals Agitated Over Policy Of Labor Government

Leading British aviation journals are quite agitated over the announced civil aviation policy of the Labor Government.

The Aeroplane has consistently opposed nationalization but is resigned to the fact that the Party in power has an overwhelming majority in the House of Commons to put its policies into effect. The wiser course now, the journal feels, is to help British aviation attain whatever success is possible.

The Aeroplane offers several proposals:

1. The "pivotal point of the whole future of British civil aviation" is the staff of permanent officials in the Ministry of Civil Aviation. The civil service must "import" men with practical experience from the industry. "The Aeroplane" adds, however, that it does not consider service with BOAC as necessarily constituting "practical experience."

2. The Minister of Civil Aviation should delegate his responsibilities to an Air Transport Board. The present plan for vesting the Minister with complete control will lead to "doggedly defending his own appointments against all corrective criticism." The Air Transport Board should appoint the directors of the airlines and check inefficiencies. On the Board should be represented the chief groups interested in an efficient air transport.

3. A real rivalry should be fostered between the public corporations. Each corporation should work as a truly independent organization on commercial lines, producing balance sheets and profit and loss statements.

4. The temptation to reward "faithful servants" with appointments to civil aviation posts must be "resisted to the utmost." "Civil enterprise administered by military minds would be a tragedy for Great Britain" "The Aeroplane" concludes.

The magazine *Flight* remains much more rebellious and devotes its editorial space to an attack on the nationalization plan. When Minister of Civil Aviation Winster advocates drawing "on ideas and experience" he leaves uncertain what that means, the magazine said. Without stating so directly, *Flight* apparently can see only that Winster means BOAC.

Worse than the plan itself is the delay it will impose upon the development of British air transport "when literally every moment counts." Granting nationalization as an ultimate goal, to introduce it right in the midst of a race for world markets is a "national calamity," the magazine states.

This is the fifth in a series of advertisements concerning the future of Aviation . . . in America

Bridging the "V" brings a New Challenge to Aviation

THE Aviation Industry shares responsibility with Private Citizens, American Business and Government in making our nation the world's greatest peacetime air power. Only if we are such a power can we look forward to permanent Peace and National Security. For modern aviation has ended all thoughts that the United States is an isolated nation.

Under wartime necessity, the advancement of American Aviation was one of the great industrial miracles of all times.

Now the challenge of peace provides an even greater stimulus to carry on the kind of *scientific research, technical developments* and *production methods* that in a few short years made our air power a decisive force in the achievement of Victory.

For the aircraft of today and tomorrow should be used for the advancement of civilization, not for the destruction of mankind.

At Bell Aircraft our sights are aimed at putting into civilian service the same types of aeronautical skills and achievements as were identified with the Airacobra, the Kingcobra, the Bell-built B-29 Superfortress and the Airacomet . . . America's first jet propelled plane.

Bell Aircraft pledges to the Citizen, to Government and to American Business that we will intensify our research and scientific development programs. Soon we shall bring to them a new form of flying . . . the Bell Helicopter . . . "The Modern Magic Carpet"* that offers door-to-door delivery . . . that can fly to and land in inaccessible spots reached by no other mode of travel . . . a helicopter with built-in, engineered stability. As in the past, now in the present, look to Bell Aircraft to be the civilian pacemaker of Aviation Progress.

*Reg. Applied for U.S. and principal Foreign countries

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Canada's First Postwar Cub—This is the first civilian Cub built in Canada since the end of the war. Sold to a Winnipeg purchaser, the aircraft was christened "Miss Winnipeg" at ceremonies held at the Hamilton, Ontario, plant of the Cub Aircraft Corporation, Ltd. Among those present were Colin Gibson, Canadian Minister of National Defense for Air, T. V. Weld, v.p. and general manager of the Piper Aircraft Corp., and R. L. Gibson, president of Cub Aircraft Corporation, Ltd.

Australian Airlines Fight Nationalization

The challenges of Australian National Airways Pty. Ltd., (ANA), Guinea Airways Limited, and MacRobertson-Miller Aviation Company Limited to the Commonwealth Government's power to set up the proposed National Airways Commission brought before the High Court of Australia the biggest panel of attorneys in many years, according to an Australian source. The High Court is the Australian counterpart of the Supreme Court in the U. S.

ANA claimed that any part of the Air Navigation Regulations, which conferred upon the Director-General of Civil Aviation an absolute discretion to refuse to issue or renew any airline license, was unauthorized and void.

The company further submitted that the Australian National Airlines Act, 1945, was beyond the powers of the Commonwealth, and contrary to the Constitution.

An injunction was sought to restrain the Commonwealth from establishing the Australian Airlines Commission, which was "purported to be authorized" by the Act.

Other injunctions were sought to restrain the Commonwealth from advancing funds to the Commission and to restrain the Commonwealth from taking any steps to establish any interstate airline service within the meaning of the Act. ANA also applied for an order to restrain the government from refusing to issue airline licenses to the company. Guinea Airways and MacRobertson-Miller made similar requests.

The government in turn argued that the legislation in question was a valid and effective exercise of the Commonwealth Parliament's powers.

In the course of argument, airline counsel charged that the Act was "a Socialistic piece of legislation," according to reports. Chief Justice Sir John Latham declared, however, this matter was not before the Court and the Court, therefore, could not passs judgment on it. After argument extending over 4½ days, the Court reserved its judgment. A decision is being prepared.

French Producing Number Of German Siebel 204s

The Societe Nationale de Constructions Aeronautique du Centre, the aircraft plant at Fourchambault, France, is producing a number of NC-701s, modified versions of the Siebel Si-204, the German twin-engined pilot and navigational trainer. The French, like the German, model grosses about 12,300 lbs. and is powered by two Argus-411 engines of 600 hp each, giving a cruising speed of 200 mph.

Shortly before the German collapse in France, an order for a number of these aircraft was assigned to the Fourchambault plant which since victory has continued production for French domestic use.

Little-known outside of Europe, the Siebel is expected to be seen rather frequently on the Continent during the reconstruction period. The Czechoslovak Airlines, a new government agency, has repaired about 30 captured Si-204s, with aircraft destined for commercial services being converted to accommodate nine passengers.

Several captured Siebels are being test-flown by the RAF in Great Britain but it is believed that there is no prospect of these aircraft being used in British civil aviation.

Two Italian Firms Removed From Anglo-U. S. Blacklist

The Italian airline, Linee Aeree Transcontinental Italiane (LATI), and the manufacturing firm, Aeronautica d'Italia S. A. (commonly known as FIAT), have been removed from the joint Anglo-American blacklist. LATI and several other Axis and Axis-affiliated airlines operating in South America were black listed July 17, 1941.

However, the removal of the blacklisting does not indicate that the company will resume air operations to South America or, in fact, any international air transport service. Company officials anticipate that the Allies will deny Italy all rights to maintain air services abroad. LATI representatives in South America are preparing to return to Italy in expectation of the news that the company is to be dissolved.

EVERY MAJOR U. S. AIRLINE IS DOUGLAS EQUIPPED

Now you can travel in Douglas equipment on any of the 21 passenger-carrying interstate airlines in the United States *and 32 foreign airlines.* Soon you will fly with comfort, speed and economy beyond anything you have ever imagined in the new, huge, dependable

DOUGLAS DC-6

GREATEST NAME IN AVIATION

Sister Ship of the Famous C54 Combat Air Transport

Eire Hopes for Bilateral Air Agreement With France

France is the first European nation with which the Eire Government hopes to make a bilateral air agreement which would permit its government controlled airline, Aer Lingus Teoranta, to operate to the Continent, it is reported from Dublin. Aer Lingus plans to operate between Dublin and Paris via Rineanna Airport at Foynes, although a direct service may also be supplied. Until recently the only international operation of the Irish line was a route across the Irish Sea between Dublin and Liverpool, operated with i:s one DC-3 in pool with West Coast Air Services, Ltd. Aer Lingus has recently added a service to London.

A Foynes-Paris operation would parallel the service of TWA, the U. S. carrier certificated to operate to Paris. However, all three U. S. transatlantic carriers will operate through Foynes, as will several European airlines. Eire's strategic location enables Aer Lingus to tap what is expected to be a heavy traffic converging at Foynes from both directions. Other nations with which Eire will seek reciprocal air agreements are said to be: Belgium, Netherlands, Sweden, Norway, and Portugal.

Three Douglas DC-3s were purchased from the manufacturer by J. F. Dempsey, managing director, on a recent trip to the United States and Canada.

British Military Program Larger Than That in U. S.

The British aircraft industry currently is engaged in a program of military plane production more than twice as large as that of the U. S., it is disclosed in an official statement of the Society of British Aircraft Constructors. The statement said that the British aircraft industry (both civil and military) is employing 900,000 workers and that "manufacture of military types is still going on apace, orders for these totaling more than 10,000 aircraft."

In contrast, employment in the basic U. S. aircraft industry dropped to 146,238 in October, according to figures compiled by the Bureau of Labor Statistics.

Compared to the British figure of 10,000, the U. S. Army and Navy combined have scheduled the production of only about 5,000 military aircraft through June, 1948.

Britain-South Africa Service Has Been Re-established

A Britian—South Africa through-service was re-established this month by joint operations of BOAC and South African Airways, both companies using Avro Yorks. A BOAC plane leaves Hurn while an SAA York leaves Johannesburg on a weekly schedule.

Both the BOAC and SAA Yorks on this so-called "Springbok" route will serve the following intermediate points: Castel Benito, Cairo, Khartoum and Nairobi.

Fares are £167 ($673 U. S.) single and £301 ($1213 U. S.) round trip. Priorities will be required. There are no sleeper accommodations on the Yorks, but there will be stops of approx. 16 hrs. each at Cairo and at Nairobi because flights are limited to daylight operations.

This service resumes the through mail and passenger service inaugurated by Imperial Airways in 1931 and operated from 1937 to 1940 by Imperial and later BOAC with Short flying boats.

LEGISLATION

McCarran Hopes for Early Hearing on New Bill

Modified Version Of Old Flag Line Measure

SEN. PAT McCARRAN (D., Nev.) who early this month re-introduced a modified version of his All American Flag Line community airline bill, expects to press for hearings early in 1946.

There was conjecture in Capitol Hill circles as to which of two McCarran sponsored aviation bills might get the top position on the Senate Commerce Committee agenda when Congress returns from the Christmas recess. Sen. Josiah W. Bailey (D., N. C.) who has been ill at his home in Raleigh for more than a month, is said to have promised McCarran that his bill, S. 1, which provides for the reorganization of the Civil Aeronautics Board as an independent agency of government, would be the next legislation to be considered. If Sen. Bailey decides to use delaying tactics in the consideration of the All American Flag Line bill, it is possible that Sen. McCarran will have to be satisfied to have S. 1 considered first.

McCarran's new bill, which is still designated as S-326, provides for a number of important changes over his original bill which was defeated in committee last July by a 10 to 10 vote. The substitute version would permit Class 1 railroads and U. S. international steamship companies to buy stock in the community company which would represent this country in the field of international airline operations. Another change in the bill calls for CAB to set up the mechanics for establishing the new company. CAB also would be required to approve the stock acquisitions.

CAB Would Handle

Specifically the proposed substitute directs the Civil Aeronautics Board to initiate preliminary studies and investigations, and to enter into subsequent negotiation, looking toward the creation of an All American Flag Line; and upon completion of those studies, investigations and negotiations, to approve or prescribe a plan for the formation of the All American Flag Line; and finally, to formulate and prepare a charter for the All American Flag Line.

The new draft authorizes and invites United States air carriers, holding certificates for international air transportation, to submit to the CAB their own plans for creation of a community company. It provides for full public hearings on such plans; and it authorizes the CAB to exercise a free hand in approving or disapproving the plans so submitted, in combining or altering such plans, or in finally formulating its own plan.

All American Flag Line, under the terms of the McCarran substitute, would acquire all the assets of all U. S. international air carriers; all real estate and ground equipment owned by domestic air carriers located outside the continental United States and used in international air transportation, together with any stock, notes, or other securities or evidence of indebtedness of any person engaged in any phase of aeronautics in a foreign country, which are owned by any U. S. air carrier or any person controlling such an air carrier.

The new bill provides that the single company shall have three special series of a common stock, to be known as "carrier shares," each series of carrier shares to constitute 20% of the proposed initial common stock capitalization of the Flag Line. These three series of "carrier shares" are to be made available by subscription, respectively to: (1) All domestic air carriers; (2) All Class 1 carriers by railroad subject to the Interstate Commerce Act (exclusive of terminal and switching companies, and carriers not citizens of the U. S.); and (3) to common carriers by water in foreign commerce, or in commerce between the continental U. S. and a Territory and possession of the U. S.

Three Major Objectives

Sen. McCarran told the Senate he had three major objectives in connection with the redraft of S. 326. They were: (1) Participation by surface companies; (2) Setting up the mechanics for forming the new company and (3) to consider all existing statutes bearing on the subject of international air transportation for the purpose of introducing clarifying and enabling amendments where necessary.

Majority and minority reports dealing with the Chosen Instrument policy question, based on the original McCarran bill S. 326, had been released to the public a few days before McCarran introduced his substitute.

The majority report is identical, except for minor word changes, with the so-called "Progress Report," which 13 Senators signed last July and sent to President Truman.

One member apparently changed his views since the report was originally submitted to the President. He was Sen. Pepper who signed the original report but who voted against it yesterday. Sen. W. Lee O'Daniel (D., Tex.) who attended the committee meeting was recorded as not voting.

The report reviews the history of the McCarran American Flag Line legislation and points up two important questions on which the Committee is divided.

St. Louis Post-Dispatch

Officers of NASAO—These officers of the National Association of State Aviation Officials were elected at the recent meeting of the association in St. Louis. Left to right—Leo G. Devaney, director of the Oregon State Board of Aeronautics, third vice president; Edward F. Knapp, inspector of aeronautics of the Vermont Motor Vehicle Department's Aviation Section, secretary-treasurer; William L. Anderson, director of the Pennsylvania Aeronautics Commission, president; Clarence Cornish, director of the Indiana Aeronautics Commission, first vice president.

Bill for New Morrow Board Disappointment To Aviation Industry

SOME DISAPPOINTMENT has been heard in aviation circles over the scope of the study and breadth of the recommendations expected under the terms of a bill introduced in the Senate Dec. 4 providing for the establishment of a National Air Policy Board which it was hoped would do the job for aviation and national security that was performed by the Morrow Board in 1925.

The bill, S. 1639, would require a more or less overall investigation of the transportation field and in that respect is quite similar to other bills now in Congress. It was introduced by Sen. Hugh B. Mitchell (D., Wash.) chairman of a subcommittee of the special committee to Investigate the National Defense Program (formerly the Truman committee) after his committee had heard aircraft manufacturers urge the creation of another "Morrow" board. The industry generally had expected a bill that would confine itself to a study of aviation with the idea that the Board would recommend policy legislation designed to keep this country in a leading position in the air from the viewpoint of both military and civil aviation.

The breadth of the Mitchell bill may be gleaned from Section 403 which states:

"The Air Policy Board is authorized and directed to make a full and complete study and investigation of air transportation and its relation to the national defense and a national transportation system by water, highway, rail, and air adequate to meet the needs of the commerce of the United States, both interstate and foreign."

Another subtitle provides that the Board shall study and recommend legislation dealing with the coordination,

When you drive a car, you have to coordinate footwork and handwork.

When you fly your ERCOUPE, your hand on the wheel is enough.

There's no footwork in the *spin-proof ERCOUPE the world's safest plane.

*Certified incapable of spinning by U.S. Civil Aeronautics Administration

ERCOUPE'S spin-proof safety design results in simplified operation. A single steering wheel guides ERCOUPE up or down, banks and turns it left or right . . . makes flying easier, reduces learning time by one-third. Sturdy all-metal construction, tricycle landing gear. Economical operation, low maintenance cost.

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strengthening, and preservation of a national transportation system by water, highway, rail, and air adequate to meet the needs of the commerce of the United States, both interstate and foreign.

The bill states that the study and investigation shall include, but shall not be limited to, consideration of:

(1) Government policies that should be adopted to stimulate a healthy rate of technical progress in air transportation;

(2) Coordination and organization of the Military and Naval Air Forces and government agencies concerned with aviation and transportation;

(3) The size of peacetime Air Forces necessary to the national defense;

(4) Maintenance of a properly balanced and expandable productive capacity of aircraft in peacetime;

(5) The extent, if any, to which plans for future wartime expansion should rely upon peacetime aircraft production companies, and the extent, if any, to which such expansion should involve conversion of the automobile and other non-aircraft industries; the extent, if any, to which civil aviation and aircraft exports should support a peacetime military aircraft industry;

(6) Suggestions for the conversion of aircraft production from a wartime to a peacetime basis, so as to assure the preservation of an aircraft production industry adequate to meet the transportation and national defense needs of the future;

(7) Means of effectively utilizing new modes and improvements to existing modes of air transportation developed during the war;

(8) The coordination, strengthening, and preservation of a national transportation system by water, highway, rail and air adequate to meet the needs of the commerce of the United States, both interstate and foreign.

Congressional News in Brief

By Gerard B. Dobben

SEN. PAT McCARRAN (D., Nev.) carried around in his pocket for several weeks a modified form of his All American Flag Line bill waiting for an opportune time to drop it in the bill hopper of the Senate. He considered Great Britain's fight with Pan American Airways over the latter's reduction in fares as the ideal time for reviving the single company policy issue. One of the interesting variations in McCarran's substitute bill centers around the provision requiring the Civil Aeronautics Board to make the study and set up the mechanics for establishment of the All American Flag Line company. The Board, through testimony of its members and through formal decisions, is definitely on record as opposed to the establishment of a monopoly in this country's international air transportation.

Rep. Frances P. Bolton (D., Ohio) introduced into the appendix of the Congressional Record of Dec. 5 a letter from an Officer in the Air Transport Command in France criticizing the "people back home" for demanding the immediate returns of their sons which is leading to the disintegration of the Army Air Forces. The letter said in part: "This past month and the first six days of this month have been our worst on the Continent as far as accidents are concerned. This has been due to a combination of unfortunate circumstances, the first being bad weather; the second, an almost total lack of good flying personnel; the third, an almost total lack of experienced maintenance personnel. This is a result of the criminal way in which the people back home have been tearing the guts out of a beautifully working Air Force."

Senate Resolution No. 161 authorizing the expenditure of $5,000 and the use of services, information and personnel of government departments in making an overall investigation of transportation facilities, including air transportation, has finally reached the Senate calendar. Sen. Owen Brewster (R., Me.) blocked unanimous consent consideration of the resolution ostensibly because he felt the issue of committee jurisdiction is involved. The resolution was originally reported out of the Senate Interstate Commerce committee. Another resolution, which would settle the jurisdictional fight between Commerce and Interstate Commerce, also is on the Senate calendar.

As this was written, the House and Senate conferees on the Federal Aid Airport bill were still a long way from agreement over the major issue of channeling of the funds. Some reports indicated that the State rights group, which hopes to effect a channeling of all funds through State governments, was making some headway. The conference committee adjourned for 10 days to let the channeling issue simmer for a while.

Two bills relating to transmission of mail by air have been introduced in Congress by Rep. Harold Hagen (R., Minn.). The one bill, H. R. 4735, provides for the issuance and transmission by air of "air mail postal cards," at three cents each while H. R. 4734 seeks to reduce postage on air mail letters from 8 cents for each ounce or fraction thereof to five cents effective Jan. 1, 1946. Both bills have been referred to the Committee on Post Office and Post Roads.

Rep. Bertrand W. Gearhart (R., Calif.) has introduced House Joint Resolution 263 requesting that the President enter negotiations for the acquisition of all islands of the United Kingdom and France in the Atlantic, the Caribbean, the Pacific oceans that may be necessary for the defense of the United States, the Panama Canal, and the Philippine Islands. Another resolution, HJ 263, specifically authorizes the President to enter negotiations with Denmark for the acquisition of Denmark. Obviously the need for air bases is a factor in these considerations.

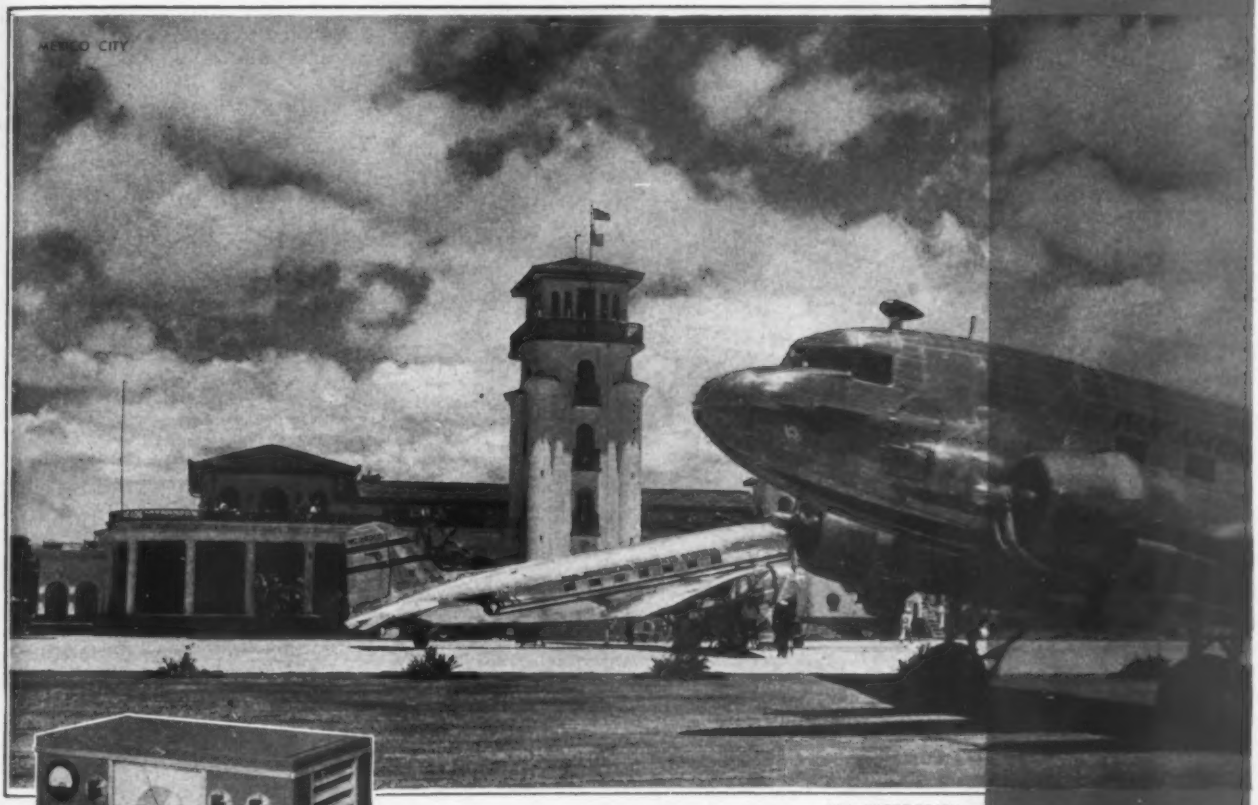
The Senate has passed and sent to the House S. 765—a bill by Sen. Brewster—which provides for the establishment of meteorological observation stations in the Arctic region of the Western hemisphere as an aid to international air commerce of this country. The program would be carried on under the jurisdiction of the U. S. Weather Bureau. The report, accompanying the bill, revealed that Russia had approximately 137, Norway 75, Denmark (Greenland) 9, Canada 4, Finland 3, U. S. (Alaska) 3 of these stations in the Arctic region in 1940.

The Propeller Club of the United States has sent to several House and Senate committees as well as government aviation agencies copies of a resolution which urges that steamship companies be permitted to enter the international air transport field. The Club's 10,000 members are engaged in some phase of maritime activity. The resolution asks for a complete coordinated sea-air service.

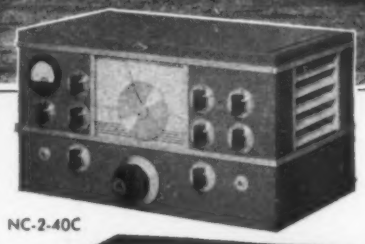
Rep. O'Hara Would Amend Liability Section of Act

Rep. Joseph P. O'Hara (R., Minn.) introduced Dec. 6 in the House of Representatives H.R. 4912 which would amend Sec. 1201 of the Civil Aeronautics Act providing that an air carrier shall be liable for injury, death or damage by its aircraft in surface operations unless that it proves affirmatively that—(1) it has taken all measures to avoid the injury, death, or damage, or that the taking of such measures by such carrier was impossible or (2) the negligence of the person injured or killed, or whose property was damaged, caused or contributed to the injury, death, or damage; or (3) the person injured or killed, or the property damaged, was at the time of such injury, death, or damage within that area of an airport available for use in the storage, handling, loading, taxiing, takeoff, or landing of aircraft, in which event the carrier shall be liable only upon proof that the carrier was negligent.

From the Arctic . . .



PAA PHOTOGRAPH



NC-2-40C

SCR-4

to the Tropics . . .

PAN AMERICAN AIRWAYS USES NATIONAL RECEIVERS

No matter where you go on Pan American World Airways, you will find National radio receivers working as an integral part of Pan American's far-flung and efficient communications system. As aviation ground receivers, they are built to give maximum performance in all climes and under the most trying weather conditions.

Small wonder that they have been selected by so many airlines and other users to whom reliable communications are a must.

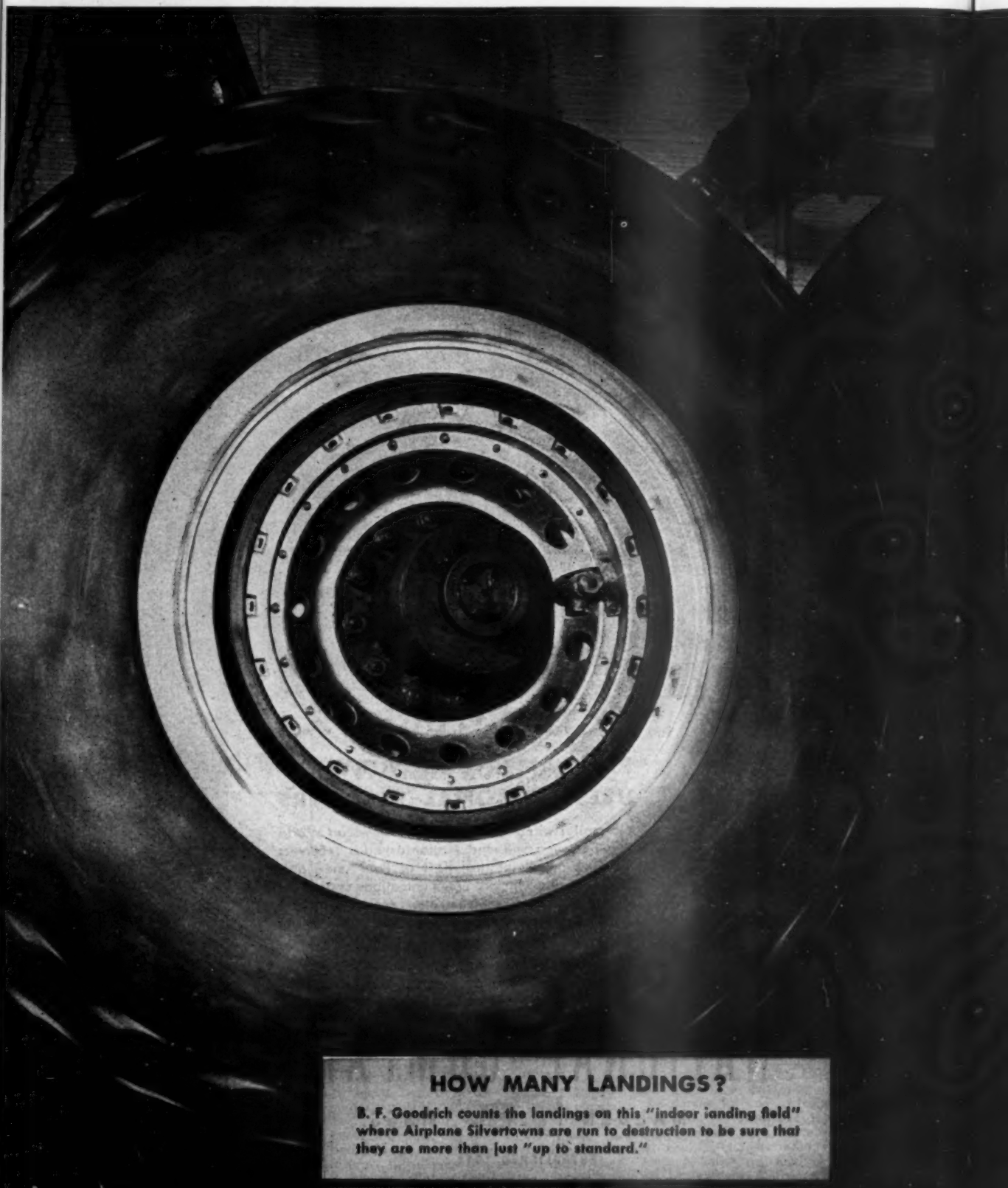
NATIONAL COMPANY

MALDEN MASS.

ESTABLISHED 1914

THE MOST DISTINCTIVE NAME IN RADIO COMMUNICATIONS

Torture chamber for tires means

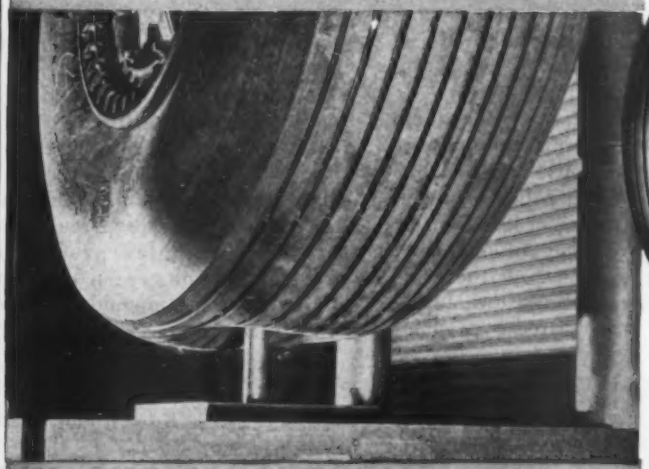


HOW MANY LANDINGS?

B. F. Goodrich counts the landings on this "indoor landing field" where Airplane Silvertowns are run to destruction to be sure that they are more than just "up to standard."

safer landings for planes . . .

BURST TEST! Water is forced into a B. F. Goodrich tire. The pressure mounts...up to many times that encountered in service. Finally (top picture), the tire bursts . . . is completely ruined as the second picture shows. Gauges record the story of a wide factor of safety.



WHAT ABOUT BRUISE RESISTANCE? Here's the test that finds out. The tire is forced down onto a steel rod under steadily increasing pressure. Down, down until something has to give. And the post-mortem leads to still further developments for greater tire safety.

B. F. Goodrich Silvertowns prove they can take it before they take off

LANDINGS are big moments in airplane tires' lives . . . moments when they have to take the shock of many tons multiplied by plenty m.p.h. If they're B. F. Goodrich Silvertowns, they're ready to take it . . . with lots to spare. Shown here are some of the reasons why.

B. F. Goodrich technicians "land" tires inside a building. They're smacked down with great force against a high-speed dynamometer and braked until the multi-ton flywheel comes to a stop. This "landing" is repeated time and again with careful wear and performance checks all the way.

Then there are tests for bruise resistance, heat resistance, fatigue resistance, and others —altogether a "torture chamber" for tires. These are some of the ways B. F. Goodrich makes sure Airplane Silvertowns are kept up to *tomorrow's* standards—always ready for the new and heavier demands of larger and faster planes. *The B. F. Goodrich Company, Aeronautical Division, Akron, Ohio.*

Skyway or Highway

B.F. Goodrich

FIRST IN RUBBER

Now, for the first time, it can be told . . . the story of how Breeze built mechanical precision into electronic vision for the U.S. Signal Corps . . . to keep radar accurately beamed . . . to put guns on target . . . and to blast enemy aircraft out of the skies.

Pioneered in the late 1930's, the Breeze Mobile Antenna Mount for anti-aircraft radar was in the war from before the start to the finish. It was a Breeze-Mounted radar set that detected the Japanese sneak attack on Pearl Harbor on December 7, 1941. Rushed to England in the worst days of the war, Breeze-Mounted radar first helped to keep Hitler out of London; later reduced buzz-bomb effectiveness by 75 per cent.

Before Victory was won, thousands of Breeze-built Mounts were produced and delivered — in time and on time to every theatre of war. This production record, backed by product performance, offers further convincing evidence of the wide range of Breeze "know-how". Listed below are other Breeze products which have made the Breeze Mark the mark of dependability the world over. The diversified skills and facilities which enabled Breeze to build these precision items in huge quantities for war are now available to other manufacturers for peacetime production. Perhaps Breeze can solve that complex production problem for you. For a complete analysis and recommendation, call in a Breeze Engineer.

BREEZE

NEWARK 7, BREEZE MARK NEW JERSEY

CORPORATIONS, INC.

BREEZE PRODUCTS AND SERVICES: Radio Ignition Shielding for Radio Noise Suppression • Flexible Shielding Conduit and Fittings • Multiple Electrical Connectors • Aircraft Tab Control Systems • Internal Tie Rods • Flexible Shaft and Case Assemblies • Cartridge Engine Starters (Manufactured under Coffman patents) • Flexible Metal Tubing • Heat Treating • Metals Fabrication • Armor Plate • Bookstacks.

Federal Control Hit at Private Flying Conference

Many Industry, Government Leaders Are on Program

A TALK by Elizabeth Gordon, editor of *House Beautiful*, on what the woman wants in private flying—with emphasis on equipment—and the prediction by William B. Stout of a one-control, fool-proof, roadable airplane that would carry two people and sell for between $1,000 and $1,500, featured the two-day Joint Private Flying Conference held in Washington last fortnight under the auspices of the National Aeronautic Association.

James W. Batchelor, general counsel, United Pilots & Mechanics Association, started off the opening session with an attack on Federal control, and a recommendation that the regulation of private flying be vested more in State and local authorities. The CAA and CAB, he said, don't seem to realize that purely intrastate operations should be out of their jurisdiction, and have been able to develop a maze of regulation and red tape without improving safety. He cited as specific examples the prohibitions against receiving instruction from private pilots, the law limiting operations to certain weather minimums instead of leaving this to the judgment of the pilot, and the rule against making cross-country flights without carrying a chart and first obtaining official weather information. He also pointed to the regulation requiring certification of major repairs by a CAA inspector even when they had been made by a licensed Airplane & Engine mechanic. This latter point was later answered by Paul "Pete" Young, CAA General Inspection Division, who said that the CAA was about to re-establish the system of appointing certain repair shops as aircraft inspection representatives who would be authorized to make such inspections, and hoped to put this in effect within 90 days.

Hits 'Old Regime'

George W. Burgess, Department of Commerce, suggested that two more effective channels through which the private flyer could make himself heard were the CAA regional administrator and the regional representative of the CAA Non-Scheduled Advisory Committee. If this did not produce the desired results, he said, then the flyer should make himself heard on getting the right man appointed to the right job. Batchelor then assured Burgess that his criticism was not directed at himself, William A. M. Burden or T. P. Wright, but at some of the men left over from the old regime.

Ray Nyemaster, Des Moines, Ia., then made a plea for simplicity, uniformity and keeping regulation to a minimum. He said that registration of aircraft and airmen is a legitimate form of raising State revenue, but dangerous in that it tended to lead to dual standards. He pointed to the difficulties in passing State regulations which conformed to the Federal because the latter were still changing. By way of example he pointed out that the Iowa laws conformed to the Federal in 1939, but that when they were revised recently, they were inconsistent on some 35 points.

Concluding the discussion of Federal, State and local regulation, Col. Clarence F. Cornish, director, Aeronautics Commission of Indiana, outlined how the State program had been coordinated with the Federal in Indiana. The State, he said, had adopted a five point program as follows: (1) Airports; (2) Air Marking; (3) Air and Ground Safety; (4) School and College Education; and (5) a General Promotional Effort.

Col. Cornish said that the Indiana program was being financed out of general funds, and that even a gas tax on aviation gasoline had been rejected.

W. L. Jack Nelson, Servair Aviation Corp., spoke on what the private flyer's local club or organization means to aviation at the luncheon session, and then the conferences turned to "Handicaps and Hurdles That May Be Obstructing the Development of Private Flying."

The two outstanding addresses at this session were a discussion of GCA as the answer to the private pilot's instrument landing problems by Lieut. Col. C. B. Sproul, Chief of the Technical Division for Flight Operations, Army Air Forces, and a suggestion as to how private flying fields could be privately financed by Robb C. Oertel, Airports Division, Standard Oil Co. of N. J.

Col. Sproul pointed out that the VHF instrument approach system is complicated, requires five separate receivers for successful operation, takes a very experienced pilot (he said many AAF men were unable to fly it successfully), and regardless of whether or not it can be used by the commercial airlines, is definitely not suited to the private pilot.

As against this he proposed GCA which requires no other airborne equipment than a receiver, and can be flown by any pilot who can hold a given altitude and maintain a given rate of descent. He answered some of the major objections to GCA by saying that it would cost little if any more than the CAA system to install, and would save countless thousands in the purchase, repair and maintenance of airborne equipment; that it required little more communication than the CAA VHF system, and that despite the Army's use of 16 men to a unit, it could be handled even more efficiently than the Army handled it with but two well-trained and competent operators.

A discussion of the confusion of the VHF communications program followed, with Jack Nelson reporting that the CAA was going to monitor one range and one tower frequency for private aircraft in January, and would switch to entire VHF in July 1948. There was some confusion among those present as to what the private flyer should do from the equipment standpoint since no VHF receivers are yet available, and the cost of buying a VHF transmitter now and a receiver two years from now would be considerably higher than waiting for a suitable transceiver. The pros and cons of this problem were debated well over into the second day of the conference, but no solution was arrived at.

Oertel suggested the supplier as a source of financing for the private flying field, saying that he saw no reason why the sound operator who was unable to obtain financing elsewhere should not turn to the oil companies and manufacturers from whom they bought hangars, shop equipment and other supplies for the needed capital. He warned, however, needed capital.

Fairchild F-24, Warner Powered

Personal Planes Division Formed by Fairchild Corporation

Fairchild Engine & Airplane Corp. announces the creation of a new Fairchild Personal Planes Division to handle the design, manufacture, sales and service of private owner aircraft. At the same time the company reveals that it will build an improved version of the four-place F-24 for the immediate market.

Standard equipment on the F-24 will include a bank and turn indicator, rate of climb indicator and sensitive altimeter as well as primary flight instruments. It will be wired and prepared for installation of two-way radio and landing lights.

With a 175 hp Ranger engine the F-24 will have a top speed of 133 mph, cruising speed at 75% power of 118 mph and landing speed with flaps of 53 mph. Range will be 620 miles, and service ceiling 14,000 ft.

The Ranger powered model will sell for $8,875 and a second version powered with a 165 hp Warner engine for $8,500. While the Fairchild statement made no mention of the fact, it is understood that from 150-200 of the new ships will be built for the company by the new Texas Engineering & Manufacturing Co. in Dallas.

Continental Motors Planning Production Of Three New Engines

Production of three new six-cylinder engine models—the A-100, C-115 and C-125—is being stepped up as rapidly as possible, and three additional six-cylinder models—the E-165, E-185 and E-210—will be placed in production within the next few weeks to give the company a complete coverage of the lightplane engine field from 65-210 hp, Continental Motors Corp. announced last fortnight.

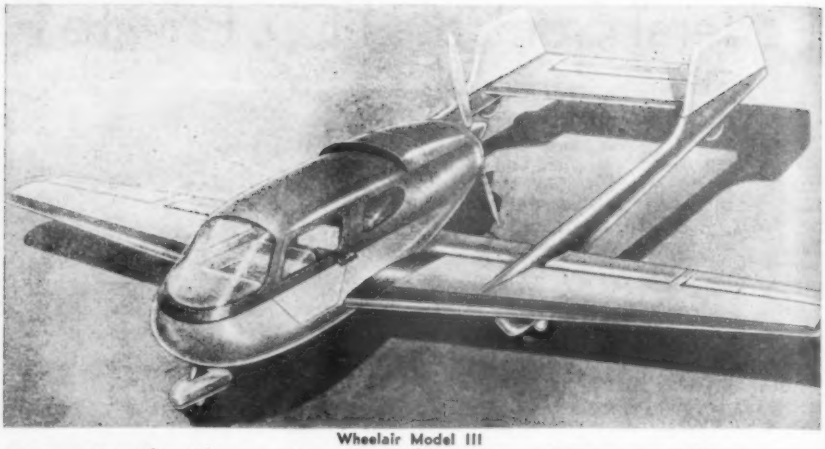
The announcement further revealed that Continental now has orders for approximately 35,000 personal aircraft engines, which is nearly ten times the company's total production in 1941, and is estimated at approximately 90 percent of the engine business which the personal aircraft business will afford during the coming year. This volume, it continued, will make possible still further development of the mass production methods which the company instituted before the war.

At the same time Continental disclosed for the first time specifications and construction details of its new "A" and "C" series, which includes the four-cylinder A-65, C-75 and C-85 in addition to the three previously mentioned six-cylinder engines. All are horizontally opposed, air-cooled, direct drive, normally aspirated engines, and except for the difference in crankcase, crankshaft and other parts occasioned by the greater number of cylinders, the six-cylinder models embody the general construction characteristics of the four cylinder models.

Every effort has been made to provide interchangeability between models wherever possible, both to further mass production techniques and thus reduce initial costs, and to simplify the maintenance and spare parts problem for the service operator.

For example, the cylinder assemblies of the A-100 are completely interchangeable with those of the A-65, as are piston assemblies, connecting rod assemblies, valve and rocker arm assemblies and numerous other items.

The C-75, C-85, C-115 and C-125 all have the same bore and stroke—4 1/16 x 3⅝ ins.—and it is understood that a similar interchangeability exists between these engines.



Wheelair Model III

Puget Pacific Planes, Inc. To Offer Line of Personal Planes

Puget Pacific Planes, Inc., of Tacoma, Wash., a newly formed organization headed by J. A. Edman, president, and with Donald J. Wheeler as chief engineer, both formerly of Boeing Aircraft Co., will offer a complete line of personal aircraft bearing the name of Wheelair.

First model to be offered is the Wheelair Model 111, metal, four-passenger, pusher-type craft with twin tail booms. It will be available with either a 125 or 150 hp horizontally-opposed type engine. The model 111 design has won first prize in the professional class of an international design competition sponsored by *Popular Science Monthly*. All engineers on the project are former Boeing engineers. Two prototypes are being constructed with production to be started at an early date.

Unique 'Roadplane' Nears Completion on West Coast

In the garage of his home in San Diego, Norman V. Davidson, former Navy contract administrator at Consolidated Vultee Aircraft Corp., is at work on a unique "Roadplane." It is a three-wheeled, two seated automobile of tear-drop design, and one of these days, if Davidson's calculations are correct, it will sprout wings and take off.

Powered by a rear-mounted Continental 75 airplane engine, which can be used both for flight and ground propulsion, the "Roadplane" will have a 36-foot, full cantilever, tapered wing over the midsection and a twin-boom tail fitting along the outside of the "fuselage." The propeller will be in the rear.

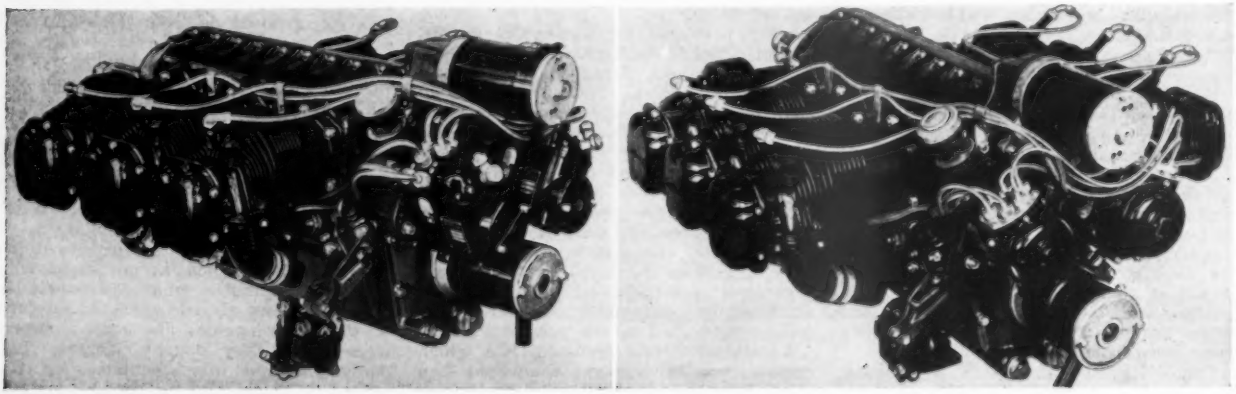
For use as an automobile, the "Roadplane" will have a clutch, brake and throttle. The steering wheel will be used on the ground and in the air.

Johnson Aircraft Drafts $250,000 Expansion Plan

Work has been completed on a $250,000 expansion program for Johnson Aircraft, Inc., builders of the three-place Rocket personal plane at Fort Worth, and production equipment is being set up preparatory to starting the assembly line rolling in January. L. D. Thomas, president of Rocket Aircraft Sales Corp., national distributor for the Rocket, said orders with cash deposits have been received for $4,000,000 worth of planes.

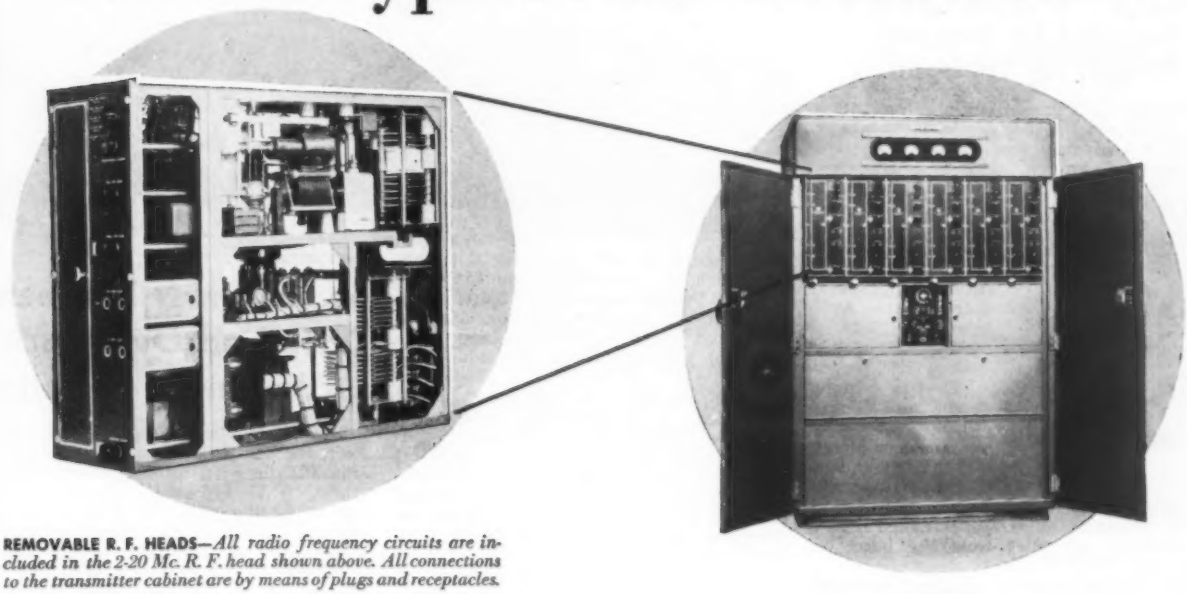
The expansion program includes an extension to the original assembly factory, 60 x 400'; an engineering building, 40 x 70'; paint and fabric shop, 50 x 140', and a concrete runway 1000' long, connecting the Johnson plant with Meacham Field.

"We plan to have between 500 and 600 persons working in the plant, assembling ten Rockets a day shortly after we get into full production," R. S. Johnson, president, said.



Rear Views of Continental A-100 (Right) and C-115-125 Engines

Wilcox Type 996C Transmitter



REMOVABLE R. F. HEADS—*All radio frequency circuits are included in the 2-20 Mc. R. F. head shown above. All connections to the transmitter cabinet are by means of plugs and receptacles.*

An expanded version of the now famous Wilcox Electric Co. Type 99A four channel transmitter, the 996C affords two additional communication channels and the option of dual plate power supplies for increased simultaneous channel operation and greater reliability.

The 996C Transmitter is designed particularly for aeronautical and other fixed services requiring multiple-frequency operation. Check these features for their application to your communication problems:

★ Six transmitting channels in the following frequency ranges:
  125-525 Kc. Low Frequency.
  2-20 Mc. Medium-High Frequency.
  100-160 Mc. Very-High Frequency.
  (Other frequencies by special order.)

★ Simultaneous channel operation in the following maximum combinations:
  3 Channels telegraph.
  2 Channels telephone.
  1 Channel telephone, 2 Channels telegraph.
  (Other combinations available with dual plate power supply option.)

★ Complete remote control by a single telephone pair per operator.

★ Carrier power—400 Watts plus.

★ Removable Radio Frequency Heads are your protection against frequency obsolescence.

★ Actual field tests, backed by thorough engineering research, are your guarantees for reliability.

An inquiry on your letterhead outlining your requirements will bring you complete data

WILCOX ELECTRIC COMPANY, INC.

Manufacturers of Radio Equipment

Fourteenth and Chestnut Kansas City, Missouri

New Orleans to Dedicate $5,000,000 Airport

Prepared for Domestic, Foreign Air Transport

FEW CITIES in the country are better prepared to participate in the postwar expansion of air transportation, both domestic and foreign, than New Orleans which is preparing to dedicate, with ceremonies of an international character, its new $5,000,000 Moisant International Airport Jan. 12-13.

Langstaff

Moisant, which covers 1360 acres and has three 5,000 and one 7,000 feet runways, completes an equilateral triangle of airports around New Orleans—the three big fields being about 11 miles apart and each approximately 10 miles from the heart of the city.

These three airports, all debt free, will enable New Orleans to accommodate the three main classifications of air traffic. Moisant will become the terminal for the six scheduled airlines—Pan American, Eastern, Chicago & Southern, Delta, National and Mid-Continent. The New Orleans Municipal Airport, located 10 miles north east of the city, and now used by the scheduled air carriers, will be the center of activities for the private flyer while the Alvin Callendar field will be used largely for cargo carrying planes and other forms of non-scheduled and charter operations.

'Air Hub of Americas'

New Orleans has a program for making the city the "Air Hub of the Americas", and the dedicatory program is expected to attract prominent government and industry aviation representatives from all over the United States as well as Latin and South America.

Moisant is being equipped with a VHF instrument landing system, neon approach lane and contact lights and all of the other navigational aids common to modern landing fields. Unique will be the airport's terminal building, constructed during the war as a hangar, but whose 28,000 square feet of floor space has been converted into ticket and baggage offices, concession stands, rest rooms and other terminal facilities.

Douglas O. Langstaff, executive director of the New Orleans Aviation Board, states the new terminal will permit more efficient operations than have been experienced at such modern terminals as the Washington National Airport terminal. Eventually the city of New Orleans expects to replace the hangar terminal with a specially constructed $3,000,000 terminal building.

New Orleans is unique in that it starts out its postwar development era debt free as far as its airport activities are concerned and with $5,000,000 in cash on hand for future developmental needs. It financed its previous construction from current revenues and from the City Council and the Board of Liquidation it received the long term proceeds of a debt tax which has accumulated to $5,000,000.

New Orleans Hangar Terminal Building

New Orleans aviation affairs, with Langstaff as executive director, are administered by an Aviation Board comprised of leading business men who serve without pay. As near as it is possible to attain, the Board is free from political influences. A. B. Patterson, president of the New Orleans Public Service Co., is president of the Board. Other members are: John Legier, president of the American Bank; George Schneider, general manager of the Association of Commerce; Raymond Saul, lawyer, and Ernest Carrere, real estate broker.

Langstaff, state director of aviation for 10 years, came to New Orleans on a temporary assignment to help put the city on the air map and has remained for four years and probably will continue in his present position for as long as he desires.

Says National Airport Plan Inadequate for Private Flyers

W. R. Macatee, manager of the Airport Division, American Road Builder's Association, asserts in a bulletin to Association members that the National Airport Plan is comprehensive for commercial airline use but inadequate for private flyers.

Macatee urges the construction, through community effort, of Airparks, Air Harbors and Flight strips. He states that in general funds required to construct small airfields range from $7 to $15 for each person in a community, with the average cost at $10 per capita of a community.

"The emphasis which many have heretofore placed on CAA's "National Airport Plan," has had the ill-effect of causing some lag with respect to planning ground facilities for the private flyer," Macatee stated. "Therefore, one of the major objectives of the Association's Airport Division will be to arouse interest in planning and providing such ground facilities as may be needed in addition to the projects which are proposed to be financed partly by and under the general supervision of the CAA Administration."

Macatee states this subject will be considered at the convention of the American Road Builder's Association in Chicago Jan. 14-17.

Airlines to Leave Detroit Airport, Move to Romulus

Activities of airlines at Detroit City Airport will be terminated by mid-1946, William Weddell, vice president of the Aviation Trades Association of Michigan, stated at a recent meeting of the association. Weddell said the airlines would move to Romulus Air Base (Wayne County Airport).

Swedish Air Interests Disturbed Over Lack Of Terminal Facilities

Swedish aviation interests are disturbed over the matter of an air terminal for transatlantic and other intercontinental traffic, it is reported. A special committee dealing with the question of airports in Sweden has recommended an expenditure of 10,400,000 kronor (about $2,610,000 U. S.) for extension and improvement of Bromma, the Stockholm airport. The airport council of the capital city had originally requested over 56 million kronor, but the amount was reduced because the committee felt that Bromma could not be made adequate for the expected heavy transoceanic and European traffic except at a prohibitive cost.

Vasby, west of Stockholm, is reported to be the site selected for the construction of a new terminal for intercontinental traffic. Bromma will be reserved for local and European services.

A special runway was built at Arna, near Uppsala, about 40 miles north of Stockholm, as an interim solution to handle some of the transatlantic traffic until a new airport at Vasby or elsewhere is in service, it is reported. The Arna runway is 5,400 ft. long with paving thicker than has heretofore been normal for Swedish airports.

A second "interim" runway has just been completed at Kungsaengen Airport near Norrkoeping, 125 miles southwest of Stockholm. The Kimgsaengen runway is 5700 ft. long and 170 ft. wide, with 10-inch paving.

The Swedish Air Force has handed over some of its wartime bases for domestic commercial air transport. Four or five of these fields will be taken over by Luftfartsstyrelsen—the Swedish CAB—to be operated by the government.

'Curtain of Light' Planned By Westinghouse for Idlewild

Landings in all types of weather will be possible at Idlewild Airport through installation of a new lighting system, according to Westinghouse Electric Corp. Under this system, a continuous curtain of light, projected from prismatic lenses spotted every 200 ft. along both sides of the runways, will guide pilots onto the darker pavement between the curtains. These curtains will be visible for several hundred feet up, despite heavy fog.

Stran-Steel T-Hangar Unit

Stran-Steel T-Hangars Now Available to Public

A possible solution to civilian aviation's pressing "housing" problem is offered with announcement that Stran-Steel T-hangar units, designed for quick erection and inexpensive, individual plane storage and servicing facilities, now are available to the public. Standard fabrication, package delivery and a simple erection method enable substantial savings in total cost for the completed buildings as compared with structures of other types, according to the manufacturer.

Although the new T-hangar is straight-sided, in contrast to the round-roofed Quonset which Stran-Steel manufactured for the Navy and is producing now for civilian purposes, similar materials and methods are used for both. The T-hangar roofs slope from front to rear, permitting either nesting or straight-line grouping of additional units. Wall and roof material, secured by nails driven into the Stran-Steel framework's patented nailing groove, is of a new architectural-fluted, bright galvanized steel sheeting. Basic building and extensions may be dismantled and re-erected at will.

Optional equipment includes a section which may be installed in a T corner to create a separate room within the hangar for office, storage or service materials without reducing the maximum protection against fire, theft and damage to plane which the all-metal construction assures.

The Stran-Steel T-hangar unit has a 39-foot, 6-inch clear front opening. Clear door height is 9 feet. The T has a maximum depth of 32 feet, giving 16-foot depths for wing and tail-section areas, respectively.

SPA Sets Up Procedures For Towns to Use Airports

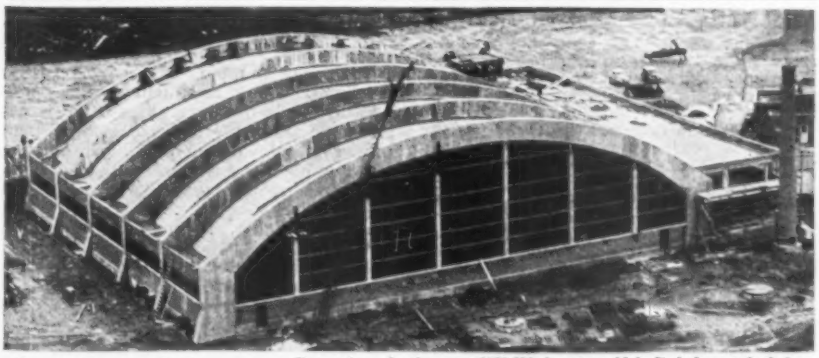
Surplus Property Administration last fortnight set up procedures which will permit municipalities or other local government subdivisions to operate surplus airports and their facilities at no cost pending final disposition of the airfield.

SPA said owning agencies of the government have been authorized to issue interim permits to states, political subdivisions and municipalities which expect ultimately to acquire the property. The airports must be operated for the general public and must permit government operations to continue, SPA said.

Wind Cone, Rotating Beacon Developed by Westinghouse

A new wind cone and a new rotating beacon has been developed for small airports by Westinghouse lighting engineers. The wind cone employs four 50-watt lamps instead of four 200-watt lamps, but it can be seen as far as necessary in any type of weather for which the airport is used.

The rotating beacon delivers 100,000 cp instead of 2,000,000. Rather than using an elaborate lamp-changing mechanism to insure continuity of service even should a lamp burn out, the new one has two separate lamp and two separate, but much simpler, lens systems. Instead of a powerful turning motor a 1/100-hp motor and gear provides beacon rotation. All rotating mechanism is enclosed, hence the unit is free from ice troubles.



Experimental Hangar—Shown here is the new $500,000 hangar which is being rushed to completion at the Schenectady Airport to house General Electric's "Flying Laboratories." It will be large enough to house four B-24s, and is scheduled to be ready by Jan. 1. One B-24 and an autogiro, both on loan from the Army, already have arrived at the airport, and several additional aircraft including a B-29 are expected to join the G-E program in the near future.

Aviation Men Being Moved Into Key Navy Posts

Action Presages Fight Against One Command

THE NAVY wants autonomy in the procurement of naval aircraft and the training of naval aviators, it was strongly indicated last fortnight by Secretary of the Navy Forrestal, who revealed that naval aviators soon will hold major fleet commands for the first time and also more of the top posts in Washington.

The Secretary announced that Admiral John H. Towers, an air officer now heading the Fifth Fleet, is slated "eventually" to relieve Admiral Spruance as Commander in Chief of the entire Pacific Fleet. Vice Admiral Marc A. Mitscher, now Deputy Chief of Naval Operations for Air, will become commander of the Eighth Fleet, he said, and officers trained as aviators soon will hold three of the six key positions under the Chief of Naval Operations. They are:

Vice Chief of Naval Operations—Vice Admiral D. C. Ramsey, now Deputy Commander in Chief of the Atlantic Fleet, will in "due course" take over this assignment.

Deputy Chief for Operations—Admiral Nimitz will name a naval aviator to this post within a few months. Meantime, it will be held by Rear Admiral Richard L. Connolly, outstanding amphibious commander.

Deputy Chief of Naval Operations for Air—This post is now held by Mitscher. When he takes over the fleet command, he will be succeeded by an aviator.

Other developments last fortnight in the controversy over unification of command were:

- Admiral William D. Leahy, Chief of Staff to the Commander-in-Chief, became the first ranking Navy o..cer to favor a separate strategic air force when he told the Senate Mili- Affairs Committee that the AAF "functioned splendidly" during the war and "I'd give the AAF what they want as a reward for their services." He added, however, that the Naval Air Force must remain part of the Navy just as much as submarines.
- The Air Power League endorsed by telegraphic vote of its directors proposals for unification of command with an air force co-equal with the ground and sea forces.
- Lieut. Gen. James H. Doolittle stated that "in the interest of economy and efficiency of operation, we must have all air under one command for the air battle—all ground under one command for the ground battle—and all sea under sea control for the sea battle."
- Gen. Joseph W. Stillwell, former commander of the U. S. Tenth Army on Okinawa, and Gen. George C. Kenney, commander of the Far Eastern Air Forces, spoke over the radio in favor of unification, and Admiral Forrest P. Sherman, commander of Carrier Division 1, opposed it.
- The National Aeronautic Association's 18,000 members were urged in a message from William R. Enyart, NAA president, to enlist local support in their own communities for legislation now under Congressional consideration to establish a unified command.

Tedder to Succeed Portal As Chief of British Staff

Air Marshal Sir Arthur Tedder will become British Chief of Air Staff on January 1, succeeding Air Marshal Lord Portal. Tedder was Deputy Supreme Allied Commander under Gen. Eisenhower and coordinated all strategic and tactical air activities against Germany.

Beechcraft XA-38—This tactical airplane was built by Beech Aircraft Corp. during the war, but it was never put into production because engines of the type used were urgently needed for B-29s. It combines the size of a medium bomber with the speed of the faster propeller driven fighters, the speed being obtained by an extremely clean aerodynamic design. A striking demonstration of the plane's speed was furnished the Army when it assigned one of its fastest fighters to pace the XA-38 and found the Beechcraft soon pacing the fighter.

Arnold Makes Strong Plea for Unification

In a plea for unification of command, Gen. H. H. Arnold, chief of the Army Air Forces, told a National Press Club luncheon gathering in Washington Dec. 6 that this country must prepare against the possibility of a devasting, paralyzing aerial attack coming by way of the Arctic circle route if the best interests of national security are to be maintained.

He said that there must be a unification of the Armed services so that there may be no more "Pearl Harbors" because of the lack of decisive action and responsible authority.

"We can no longer have the Army, the Navy, the Air Forces each going their separate and independent ways, each asking Congress for millions of dollars in public funds, each creating separate training schools, hospitals and bases and leaving the poor taxpayer to foot the bill. We've got to have the same kind of a business administration that any comparable big industry would have. We've got to get rid of the duplication of effort through a closer tie-in between the services. We had cooperation, coordination and understanding before, but no one to make a decision," he stated.

Tracing Army Air Forces growth and accomplishments from the "It Can't Be Done School," of pre-war days, Gen. Arnold suggested if the effectiveness of a 5,000 mile range bomber, the atomic bomb, electronic developments, war head explosives were combined in one terrible instrumentality of death and sent across the North Pole it might be possible to destroy the entire economic and industrial life of the nation without the Army or Navy having fired a shot.

The answer, Arnold said, was that for this country to occupy the bases that we have won so as to "put us that much nearer to the industrial and economical centers of those countries" that have the potential to make war on us.

"This country's scientific research must be ahead or at least on a par with that of any other nation, it must have an information service that will always let us know what the potential war maker is doing and we must have on hand all of the latest equipment with which to fight a war.

"The airlines today are as much a part of airpower as is the bomber and fighter. We must have enough transport planes, civilian and military, so that we can transport an airborne corps of 30,000 men on short notice. Our whole conception of Air Forces personnel must be changed so that the pilot will no longer be dominant but a member of a team that will include the scientist and the administrator. We must earmark scientists the same as we do West Pointers and provide them careers in the Air Forces. We must keep close contact with industry so that there may be a great opportunity for the interchange of ideas," he stated.

Arnold said the Air Transport Command was "folding its wings," that weather reporting stations in the North Atlantic would be turned over to the commercial airlines.

Answering a question, he suggested greater unification of effort, through standardization of training and equipment in the Americas, because "we of the Americas are somewhat separated from the other areas of the world."

Arnold said that the "hue and cry" to get GI Joe home was leading to the disintegration of the Army Air Forces and that schools for training of pilots, mechanics and technicians are being re-opened for replacements to enable the Air Forces to do the job that has to be done.

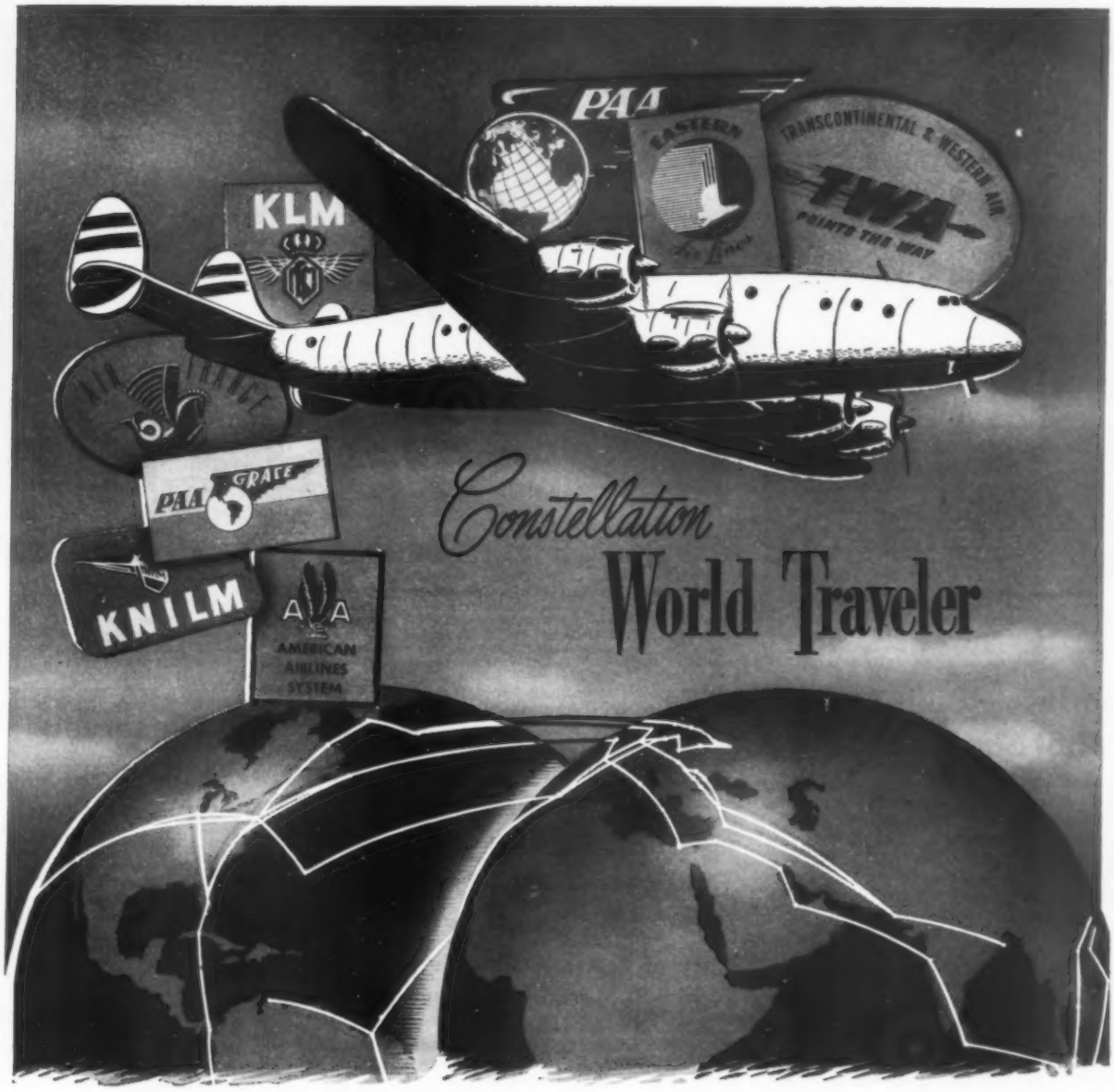
Large Number of Transports Required by U. S. in Germany

PARIS—Apparently authentic reports emanating from Ninth Air Force headquarters in Germany indicate that the interim Air Force requirements for the U. S. occupied zone of Germany call for 500 Douglas C-47 transports, six Douglas C-54 Skymasters, and large numbers of bombers and fighters.

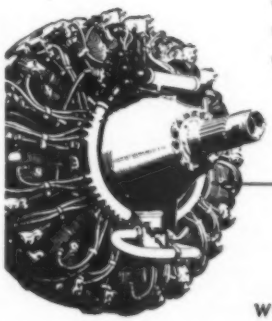
The large number of transport planes being asked for is a considerable surprise in some quarters, since there is not sufficient trained ground and flight personnel either available or in sight to maintain and operate a fraction of that number.

Another requirement is said to be 275 Boeing B-29 Superfortresses, 303 B-17s and 65 B-17Gs. Fighters are listed as 800 Republic P-47s, 500 North American P-51s and 71 Northrop P-61s. In the medium class are 218 Douglas A-26s and 40 B-25s. Others listed are 94 F-6s, 78 UC-78s, 75 UC-45s, and 155 UC-64As.

The requirements are understood to be a recommendation by the United States Air Forces in Europe, headquarters of which are in Weisbaden—W. W. P.



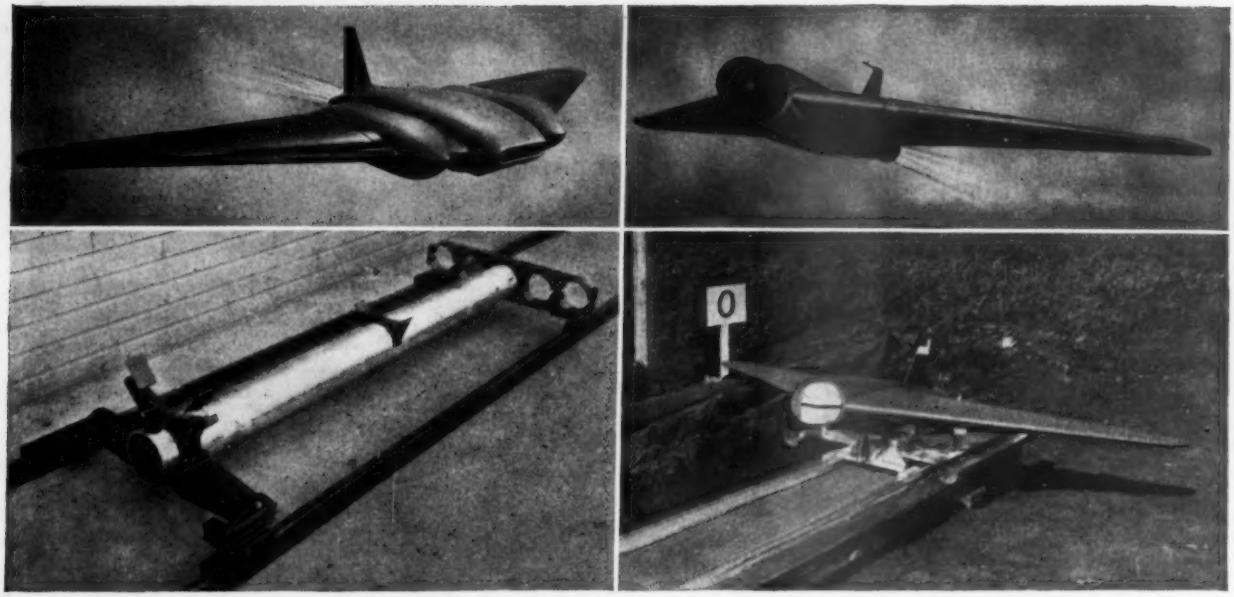
Cyclone 18 power, proved by ten million hours of operation for war, is now the first choice for flight on peacetime international trade routes. Eight airlines, operating in commercial competition between every major nation of all continents, have chosen to fly the Wright Cyclone-powered Lockheed Constellations. The power of the Cyclone 18 enables the Constellation to reduce transoceanic fares and yet cut costs, to increase speed and still carry greater payloads. This performance, linked with Cyclone reliability, made it aviation's first choice as war's end brings commercial engines back into production again.



WRIGHT *Aircraft Engines*

AIR POWER FOR A WORLD AT PEACE

Wright Aeronautical Corporation, Paterson, New Jersey, U.S.A. • A Division of Curtiss-Wright



TOP LEFT—This twin-jet buzzbomb, powered by General Electric propulsion units, was Northrop's first venture into the design and manufacture of robot bombs for Army testing. This early model carried its explosive charge within the bomb-like bulges in the wings. TOP RIGHT—The JB-1A has been manufactured in quantity by Northrop for Army testing. Warhead of nearly two tons is carried within the cast-magnesium inner section of the wing on each side of the fuselage. LOWER LEFT—These improved launching sleds helped turn the jet bomb into an implement of mobile warfare, rather than a weapon needing large stationary "nests" for launching. All parts of the launching sled nest inside the tube for shipping, and the sled can be assembled quickly when needed. LOWER RIGHT—Scale model of Northrop's "Flying Wing" jet bomb is shown poised on a miniature track.

Northrop Built Many Robot Bombs for Army

Something of a preview of Northrop Aircraft's Flying Wing design was revealed when military secrecy was lifted on a bat-like, jet-propelled robot bomb developed by the company.

The bomb is rocketed off portable launching platforms mounted on rails only 50 feet long and thus can be set up readily for front line action.

Weighing 7,000 pounds, it carries an explosive charge of 3,700 pounds, considerably more than the charge of the German V-1, and it has a range of more than 100 miles at speeds of 350 to 400 miles an hour.

The buzz bomb is powered by an athodyd, or "stuttering stovepipe" type engine. The first engines—twin jets—were made by the General Electric Co. For later models the Ford Motor Co. supplied single jets.

The backbone of the launching sled is a 14-foot long aluminum tube. The robot bomb rests on "cradles" of this tube. Four rockets are fired electrically at the rear of the sled, sending the sled and bomb hurtling down the ramp. At the end of the ramp, when the bomb and sled have reached a speed of about 220 miles an hour, the robot bomb takes off on its flight and the sled falls to the ground.

The bomb is made of aluminum and magnesium, welded by the Heliarc process developed at Northrop. It has a wing spread of 30 feet.

Story of Radar-Guided Bombs Released by Navy

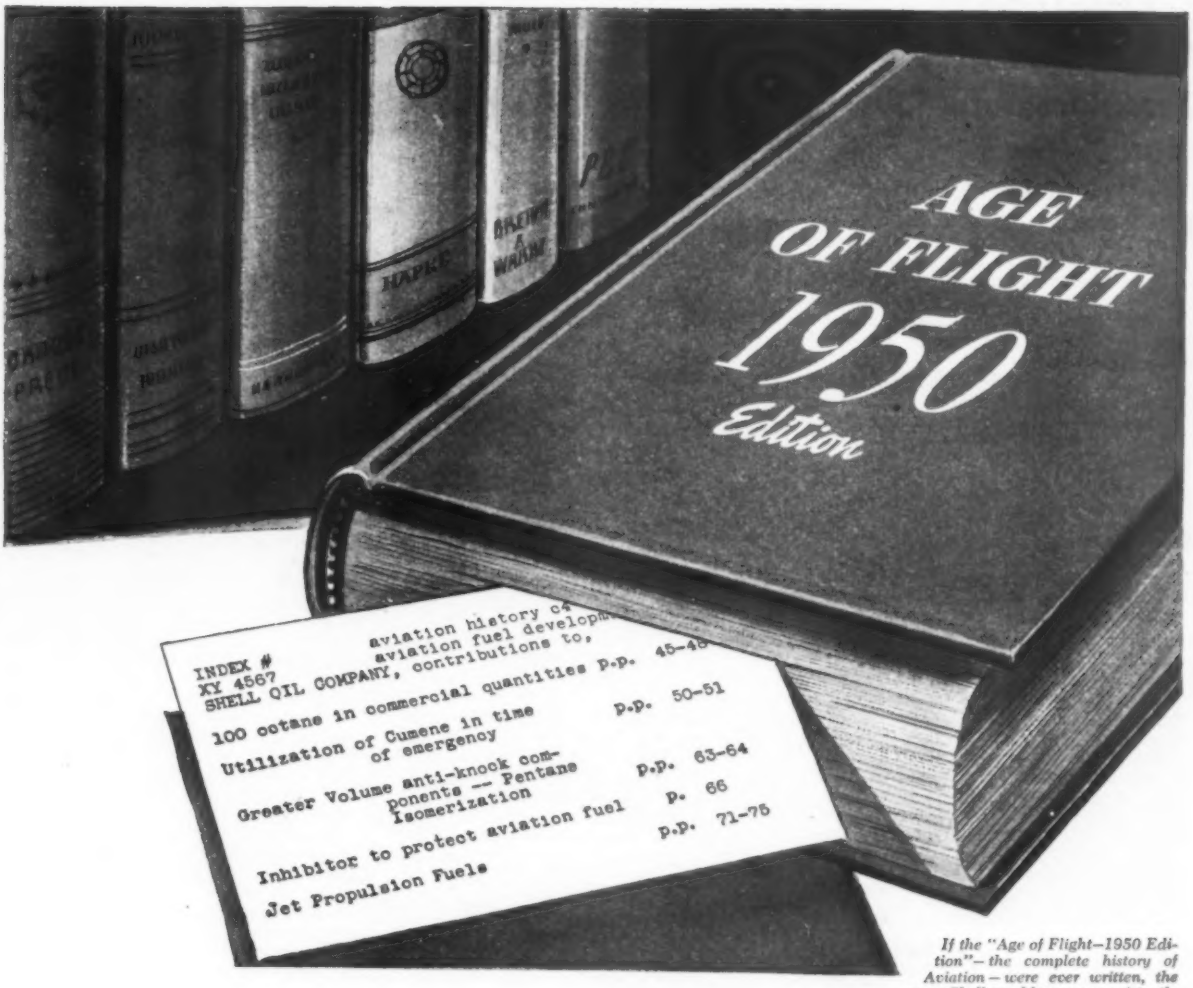
Flying bombs, launched from Navy planes and accurately guided by radar to targets miles away, destroyed many tons of Japanese combatant and merchant shipping during the last year of the war, the Navy Department recently revealed. They were the first fully automatic guided missiles to be used successfully in combat by any nation.

Air Corps Reserve Plan Is Announced By War Department

Formulation of an Air Corps Reserve plan for maintaining the efficiency of its Reserve pilots has been announced by the War Department. The Reserve, consisting of officers and enlisted personnel, will be trained and controlled by the Federal Government and will be ready for mobilization and active duty "at the time, places and in the numbers dictated by the needs of national defense. The size and efficiency with which this civilian component of the AAF will operate will depend upon the amount and quality of proficiency training that can be provided by appropriations alloted for postwar training purposes."

Selection of air installations to be used by Reserve pilots depends upon aircrew population density, according to the War Department's announcement. However, for purposes of economy and efficiency, the location of installations now equipped and operating must also be taken into consideration. Sufficient modern aircraft have been earmarked for use in the Reserve. Plans for training, which include extended active duty with the regular Air Force, regular annual summer training periods, weekly progress periods of training, and added educational programs, have been completed.

The AAF is tendering Reserve commissions in the highest grade held at the time of separation to include all honorably separated Reserve-AUS pilot officers. The number of pilot officers accepting these commissions will reach an estimated 120,000.



If the "Age of Flight—1950 Edition"—the complete history of Aviation—were ever written, the name Shell would appear consistently as a leader in Aviation Fuel development.

SHELL RESEARCH WILL HELP YOU WRITE TOMORROW'S AVIATION HISTORY

In tomorrow's textbooks on science and aviation, Shell will be closely linked with jet propulsion . . . revolutionary power source.

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SHELL

FINER FUELS FOR THE AGE OF FLIGHT

MILITARY

P-38 Called Most Versatile Plane Of World War II

By FRED S. HUNTER

THE P-38M, the XP-58, the XP-49 and the F-G-5 were added to Lockheed's long list of Lightning fighter planes last week with a "now it can be told" release by the Army Air Forces, to further substantiate the Burbank manufacturer's claim of the "most versatile plane of World War II."

These are the four modifications of the twin-tailed Lockheed fighter which were disclosed in the Air Forces announcement:

1. The P-38M Night Lightning, the world's swiftest night fighter.
2. The F-G-5 "Photo Joe," 425-mile-an-hour photo reconnaissance plane.
3. The XP-58 Chain Lightning, a third bigger than the standard P-38, equipped with 24-cylinder Allison W type engines.
4. The XP-49, fastest of the Lightning line with top speed of 458 miles an hour, equipped with Continental engines.

The Night Lightning and Photo Joe went into production before the war's end and saw combat action in the last few weeks of the war in the Pacific. The XP-58 and XP-49 were experimental planes.

The P-38M was both an interceptor to seek out night-flying enemy bombers and Kamikazes and night-prowling aerial battleship packing rockets and bombs.

Distinguished from the familiar twin-tailed Lockheed day fighter by a radar operator's cockpit directly behind the pilot's station, detection equipment is housed in the P-38M in a streamlined carrier resembling a small auxiliary fuel tank under the plane's nose. The plane has a sleek, black overall finish.

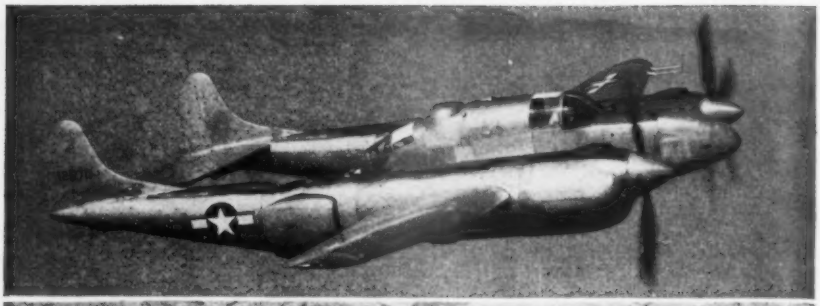
The plane's armament consists of four .50 calibre machine guns and one 20mm. cannon located in the nose. In addition, rockets mounted on cluster launchers under each wing give the P-38M the firepower of a broadside from 10 five-inch naval guns. They may be used effectively against radar-detected targets on the ground as well as in the air.

Three hundred gallon auxiliary fuel tanks attached to underwing shackles boost the Night Lightning's operational range to more than 1,700 miles. For shorter missions, two 1,000-pound bombs can be carried in place of the fuel tanks.

The new "photo Joe" is the latest model in the series of P-38 photo reconnaissance planes. It has a protruding, removable nose containing five powerful cameras that take pictures both obliquely and straight down to cover vast areas. The cameras take clear pictures at altitudes from tree top levels to 30,000 feet.

Both the XP-58 Chain Lightning and the XP-49 closely resembled the standard P-38 fighter. The XP-58 had a maximum gross weight of 38,000 pounds, more than twice as heavy as a P-38. Its wing span was 70 feet and length 49 feet 6 inches, both dimensions a third larger than those of the Lightning. It carried a two-man crew, including a tail gunner occupying a rear turret. Engines were the 24-cylinder Allison W type developing 3,000 horse power each. This experimental escort fighter and shipping destroyer was developed in 1940 and was used in experiments paving the way for many wartime developments, including central fire control.

The XP-49 had large spinners and enlarged cowling to house the Continental engines and revised internal construction. The super-charged Continentals developed a total of 3,980 horse power, 230 more than that of the Allisons carried in the regular P-38's. An Army secret for more than two years, the XP-49 represented the first successful pressurized cockpit for a fighter plane. Its test pilots regularly flew it above 40,000 feet in developing the pressurization equipment for new planes like the P-80 Shooting Star.



Lockheed XP-58 Chain Lightning (top) and P-38 Night Lightning.

TRANSPORT

Braniff Freight Rates Apply to 99 Communities

Pick-Up and Delivery Service Night and Day

By GUY M. SPRINGER, JR.

Manager, Airmail and Air Cargo for Braniff Airways

"STREAMLINED on the ground and in the air" is the identification symbol of Braniff Airways new air freight service and is also in nut-shell description of the latest methods of air cargo handling which the new volume cargo service will initiate.

Launched December 1, the Braniff air freight program is the first to publish a record low in tariffs, the first to slash to a minimum—the current complicated bill of lading and freight bill document, and the first to eliminate mileage restriction.

Every city on the Braniff system will receive the service regardless of distance between shipper and consignee. In addition, other municipalities in areas served by Braniff are included in the tariff, making a total of 99 communities to which rates apply.

C. & S. Plans Freight Service

Chicago & Southern Airlines announced that it would begin air cargo freight service shortly after the first of the year, with two DC-3s. Shipments will be in volume of 25 pounds or more.

Rates ranging from 30 to 45 cents a ton mile apply to four classifications of articles, a reduction of from 37 to 59% from existing cargo service rates.

Arrangements have been made with individual trucking companies in each city to provide pick-up and delivery service with their own equipment and employees. A once-a-day ground service plus a minimum shipment requirement of 25 pounds or $3 is partially responsible for the new low in air cargo rates.

Under existing Air Express, which air freight will supplement, a customer receives pick-up and delivery 24 hours a day. For instance, a one-pound package may be delivered ten miles over the city at two a. m. for the minimum fee of one dollar.

The airlines must finance special trucks at all hours of the day in addition to other expenses for this day-round service. This thinning of load factor per trip results in high overhead for which the shipper must pay in the form of higher rates. But with the increasingly popular use of aerial shipments for everyday business, customers are asking for deliveries during the normal business hours of the day.

Thus, under the air freight program, by placing a minimum of 25 pounds per shipment and limiting ground service to daylight hours, overhead is chopped to a fraction of the former cost, and rates are dropped accordingly.

Between 8 a. m. and 2 p. m., pick-up orders from all parts of a city are accepted by Braniff and forwarded to the trucking company. Packages are collected in the afternoon and loaded on the evening cargo flights for overnight delivery to any city on the system. Deliveries will be made the following morning at the destination points.

The first Braniff Airways airfreight shipment out of Oklahoma arrives from Lawton, Okla., by Mistletoe Express December 1 and is loaded in Oklahoma City on the Chicago-bound Braniff plane. One of the 13 trucking firms in Braniff cities which are providing pick-up and delivery service for the airfreight program, the Mistletoe line links 409 Oklahoma towns—will shuttle airfreight shipments to and from any of the communities to the Braniff planes at Oklahoma City and Tulsa and later Ponca City and Muskogee when their airports are open to commercial use

A customer desiring to ship after the 2 p. m. deadline or at any other time may deliver his own package to the airport and receive an allowance of twenty cents per 100 pounds. Conversely, he may furnish his own pick-up from the airport and receive the same allowance. In all cases, he pays only for the service he chooses.

Wherever possible, Braniff is contracting with the same trucking companies used by other airlines to the economic benefit of the ground carrier, the airline, and the customer.

Makes For Efficiency

If a truck can coordinate its itinerary for one trip to the airport instead of two or three, regardless of which airline flies the package, more efficient and ultimately cheaper service can be provided by the truck companies for all the airlines.

Under Braniff's new plan, general information for the public concerning the airfreight program—rates, tracing shipments, method of shipping, and packaging of articles will not be confined to the cargo department alone.

Thus shippers may obtain information from any Braniff city ticket office, reservation department or airport counter. Members of the cargo department have just completed a month's tour of each city on the system instructing employees in the mechanics of the program.

Another streamlined principle of Braniff's freight system is the creation of a single shipping document.

The simplified document, 8½ inches square, requires only six copies. Original goes to the shipper when pick-up is made, a second retained for the original airport files and a third forwarded to the airline's treasury department as a cash report voucher.

Three copies accompany the package. To further hasten package handling, Braniff has designed an air window-envelope. At one glance, the cargo handler or trucking representative can find all information pertinent to the proper delivery of the shipment. Of the three remaining copies, one goes to the consignee, one as a delivery receipt, and the other as a copy for billing purposes.

Convenient also to shippers is inclusion of a waybill number on the document which facilitates shipment tracing.

Tariff Classification

Class I of articles listed in the tariff move at 45 cents per ton mile and includes all items not specifically placed in other classes. Phonographs, records, and professional equipment are among those items moving at the class II rate of 40 cents, while the 36 cent rate applies to such articles as shoes, fabrics, and ready-to-wear garments, drugs, and all types of seafoods. Lowest rate, or class IV at 30 cents per ton mile apply to shipments of machinery, books, newspapers, and other printed matter, automotive parts, and fresh fruits and vegetables.

Airfreight service will be given for the first time to the Rocky Mountain Area, Texas coastal cities, Rio Grande valley, and the Ozark mountain regions.

Use of the Great Circle Mileage for rate computation gives the shipper a saving advantage, as rates on practically all distances are computed on the shortest distance between cities.

Two Douglas C-47's, have been delivered to Braniff for cargo transportation. Designed to carry cargo only, the freighters have a specially re-inforced interior structure.

Western Planning to Spend $15,000,000 in Expansion

Wants 28 Four-Engined Planes; 4,000 More Seats

WESTERN AIR LINES plans to spend more than fifteen million dollars for additional planes, facilities, and ground equipment, it has been announced at the Los Angeles headquarters of William A. Coulter, WAL president.

Coulter revealed that the airlines expansion program will include a fleet of 28 four-engined planes, to supplement the company's present fleet of 14 twin-engined planes. By June, Coulter predicted, Western will be flying well over a million miles a month—and this mileage will increase even further as the airline continues to receive delivery of new four-engine planes throughout this year and next.

The new Douglas planes, three of which have already been delivered and are being readied for service, will provide 4,000 additional seats for use by travelers on the airline, Coulter said. They will carry from 46 to 56 passengers. They are being provided to Western by both the Douglas Aircraft Co. and by the Army, Coulter said. The ships will be of both the DC-4 and the DC-6 type.

Of 18 DC-4's costing $7,000,000, Douglas will provide five directly off the assembly line, beginning in late December, while the Army will provide 13, three of which have already been delivered. In addition to the DC-4's, Western has contracted for 10 craft of the DC-6 type, at a cost of $6,000,000. These planes, like the DC-4's, are four-motored ships and are equipped with deluxe pressurized cabins for sub-stratosphere operations. Delivery of five of the planes is expected in 1946, Coulter said, with an additional five to be accepted in 1947.

The forthcoming increases in numbers and types of planes used on Western's routes will mean vast expansions in personnel and ground equipment, Coulter pointed out. The airline's employees have already increased almost 500 percent since 1940.

WAL's Los Angeles-Denver Inaugural Set for Early '46

Before Western Air Lines can commence operations between Los Angeles and Denver, sometime early in 1946, three steps must be accomplished, Leo H. Dwerlkotte, executive vice president for the company, states.

"First, the necessary radio ranges, beacons and weather stations have to be completed and put into operation by the CAA," he says. "We have been assured by CAA administrator T. P. Wright that, in spite of acute manpower and equipment shortages, these airway facilities will be operating by Jan. 15. Second, the airway and its facilities must be approved by the regional office of the CAA for flight by Western Air on instruments. Third, our own operations department must make complete surveys and test flights over the airway to determine whether all conditions have been satisfied to permit regular flights under all-weather conditions."

Dwerlkotte reveals that equipment on the route will be four-engined. All-weather day and night operations will begin as soon as the CAA approves and Western's operations department is satisfied that all requirements have been met. "Otherwise," he says, "we will begin operations on whatever restricted basis is necessary—possibly clear-weather daytime operations only—until such time as any needed facilities have been installed to permit uninterrupted flying on instruments."

Father and Son—Capt. Jesse Hart (left) and First Officer Bill Hart of Continental Air Lines are shown making out the flight plan for their first trip together as an airline crew. They are the only father and son team to fly for Continental

New Air Express Tariff Announced by REA-Air

A new air express tariff, slashing rates on a variety of commodities ranging from cheese to hand-bags, will go into effect Dec. 18, the Air Express Division of Railway Express Agency announces. The rate reductions will apply on traffic routed through Continental Air Lines, Inc. and Essair, Inc.

Cut flowers will be flown at substantially reduced rates from 14 additional midwest and generally southern airline cities, beginning Dec. 17, REA announced. The reduction will cover all flowers with the exception of orchids. The cities are located on the Chicago and Southern Air Lines.

H. G. Smith Merrill Richards

Executive

Capt. John Ringer, chief pilot for Air Cargo Transport Corp., has been named vice president-flight. He was formerly with Colonial Airlines.

Lt. Cmdr. H. Gilbert Smith has been named vice president-traffic of Expreso Aero Interamericano, S. A., the Cuban airline.

Col. William S. McDuffee has been appointed a vice president of TACA Airways to handle special assignments. During the war, he was in charge of ATSC's eastern district. **Col. Silas R. Richards** has been elected vice president-operations of TACA.

Operations

W. E. "Slim" Larned has returned to United Air lines after serving as a commander in the Navy and is undergoing the company's familiarization program preparatory to becoming assistant superintendent of eastern flight operations.

Capt. H. C. Kristofferson, veteran Pan American Airways pilot who has been assistant chief of staff at ATC headquarters in Washington, has been appointed operations manager of PAA's Pacific-Alaska Division.

R. F. Dorsey, who has been United Air Lines' station manager at Akron, has been named operations chief for United at Newark. He will be succeeded at Akron by **G. D. Boon,** who has been station manager at South Bend. The latter post goes to **Brentano Anderson,** assistant station manager at Boston. **C. L. Palmer,** station manager at Youngstown, is transferring to Fresno because of his wife's health. He will be succeeded at Youngstown by

Airline Personnel

Bennett Tewksbury Beattie

Andrew Chas of the New York dispatch office.

George W. Koeller, Chicago & Southern Air Lines station manager at St. Louis, has been named superintendent of stations with headquarters at Memphis.

Capt. Ray W. Wells, veteran pilot and midwest region operations manager of TWA, has been assigned to handle special phases of the line's operations in Europe with headquarters in Dublin.

Traffic

Luther L. Kellogg, formerly assistant general traffic manager of Air Cargo Transport and Hudson Airlines of New York, has been named assistant to the regional traffic manager of TACA Airways. **Shelby W. Merrill** has been named a passenger sales manager for TACA.

J. C. O'Connor has returned to United Air Lines as air cargo manager in the Philadelphia area after serving since 1942 as a major in the ATC. **B. C. Koenitzer,** who has been acting area manager, has been transferred to Detroit.

C. J. Middleton has returned to United Air Lines as DTM at Seattle following three years with the ATC.

Glidden Forbes, formerly with the Ninth Air Force

Forbes G. M. Smith Strieffler

Service Command as an interpreter, has joined American Overseas Airlines and will be assigned to the company's London office as passenger traffic officer.

Harold A. Olsen has been appointed general traffic manager of Pennsylvania-Central Airlines. He was formerly western divisional traffic manager, a post now occupied by **Fred C. Klein.**

E. O. Morgan has been appointed Los Angeles sales supervisor of American Airlines. He was assistant station manager in Washington, D. C., before becoming a lieutenant (sg) in the Navy.

W. R. Beattie, pre-war superintendent of traffic of Braniff Airways who has been in the Navy, has been appointed head of Braniff's new Interline, Agency, and Foreign Sales Department.

Capt. George G. Cain, commanding officer of the ATC's Regional Air Priorities Control Office at Los Angeles, has returned to Western Air Lines as district manager of passenger service for the Los Angeles area.

Miscellaneous

Paul M. Strieffler has been named administrative assistant to the Atlantic Division manager of Pan American Airways.

T. E. Oakes has been appointed senior staff assistant in charge of contract sales for Transcontinental and Western Air.

Lt. Stuart T. McAlister, veteran of three years with NATS who served as pilot of Admiral King's flag plane, has been appointed a legal assistant with Pennsylvania-Central Airlines. He once practiced law in Kansas.

Col. Jess B. Bennett, former sales executive for Curtis Publishing Co., has joined Braniff Airways as director of research and planning.

Maj. Gerald M. Smith, former "Hump" pilot, has been named an executive assistant of TACA Airways.

R. Humberto Urrutia has been named publicity assistant for TACA Airways with offices in New York and Miami.

Raymond W. Tewksbury of Chicago has been named regional director of properties for TWA, succeeding **A. R. Thompson,** who has been assigned to TWA's contract section at Kansas City.

Col. Robert M. Love Named President of All American

Col. Robert M. Love of Boston will become president of All American Aviation next January, Halsey R. Bazley, the present president has stated in a letter to employees.

Love

Bazley's letter revealed that "prior to my acceptance of the presidency of A A A several years ago, it had been agreed that the appointment would be on a temporary basis for an indefinite period." He will return to Pittsburgh as vice president—operations. No other organizational changes are contemplated, his letter said.

During the war, Col. Love was an officer in the Air Transport Command. Prior, he was president of Inter-City Aviation, Inc., which operated at the Boston airport. He was a member of the Massachusetts State Aeronautical Commission in 1941.

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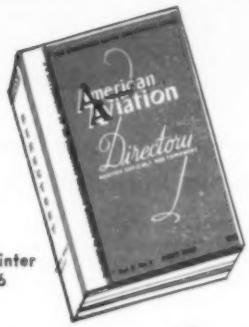

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New-Type Ground Transports Considered By Los Angeles Firm

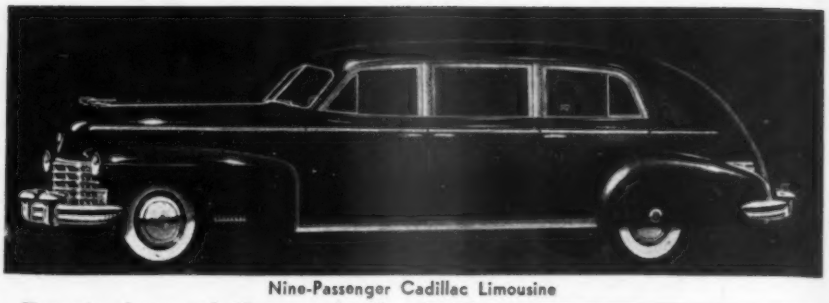
Airdrome Transport, Inc. of Los Angeles plans to use two types of conveyance for airport ground transportation for air travelers using four-engined planes, according to Joseph Ferrant, president of the company.

Development of a 21-passenger "Airporter" club coach to meet the increased demands which will be put upon ground transportation facilities by the greater capacity of the four-engined planes was disclosed by Ferrant in his announcement that his company had ordered 20 of the club coaches to serve Los Angeles airports.

The "Airporter" is built by the Flxible Company of Loudonville, O., bus manufacturers. Designed specifically for airport service, the seating is in lounge chairs with foam rubber cushions. Individual chairs swivel and the seat space is much wider and longer than in average coaches. Overhead lighting is fluorescent and there are individual luminar reading lights.

The "Airporter" costs approximately $12,000 and delivery of the first of the fleet to Airdrome Transport is expected in the spring.

Ferrant also announced that his company had purchased 20 new nine-passenger Cadillac limousines to supplement the "Airporter" fleet.



Nine-Passenger Cadillac Limousine

Ferrant, pioneer of 19 years in the field of providing ground transportation to and from airports, said he expected airport ground transportation operators generally would standardize on these two—or similar—types of equipment with the advent of the four-engined transport planes.

"Ground transportation organizations will have to keep step with the improved airplane service," said Ferrant. "Plane loads up to 60 passengers can't be handled satisfactorily with limousines. Ordinary busses won't do because it is too much of a let-down to move a passenger from a luxury plane to an unattractive vehicle. The only answer is a basic service with luxury-type coaches having greater seating capacity and supplementing these with limousines to accommodate overflows."

In addition to those ordered by Airdrome Transport in Los Angeles, it is reported John Carey has purchased 30 "Airporters" for his service from the Airlines Terminal in New York.

Waterman Airlines Opens Alabama Intrastate Route

Waterman Airlines, Inc., subsidiary of Waterman Steamship Co., and Alabama's first scheduled intra-state airline, began preliminary service Nov. 15 between Mobile, Dothan, Montgomery, Birmingham, Huntsville and Muscle Shoals. Operating under a certificate from the state's public service commission, the company will later serve ten major communities with Lockheed Lodestars now being converted. Initially, only freight will be handled.

Waterman, with maintenance and operational headquarters at Bates Field, Mobile, Ala., lists as its officers: E. A. Roberts, chairman of the corporation; Capt. Norman Nicolson, president; W. B. Garner, executive v. p.; C. B. Waterman, v. p. and general manager; H. C. Slaton, v. p. and treasurer; Roy Keeley, v. p.; J. A. Townsend, secretary.

Tariffs have been filed with the public service commission. As cargo shippers, Waterman looks particularly to the seafood, poultry, produce and flower industries.

Essair Considers Purchase Or Lease of Douglas DC-3s

W. F. Long, president of Essair, Inc., newest certificated air carrier, stated that his company has under consideration the purchase or lease of Douglas DC-3 (C-47s) for use on its route from Houston to Amarillo, via San Angelo, Abilene and Lubbock.

Interviewed by a representative of AMERICAN AVIATION in Dallas, Long and L. H. Luckey, vice president in charge of operations, said that if DC-3 equipment can be obtained, Essair expected to get "out of the red" in six months. The company is operating two round trips daily with Lockheed Electras, nine passenger planes at almost capacity loads. Because CAA regulations limit operations to one hour after daylight, the company has had some difficulty in completing the second flight from Abilene to Lubbock. This is partly due to the fact that some 1,700 Flying Fortresses are parked on the Lubbock airfield.

"Generally speaking we are getting more business than we can take care of," Luckey stated.

The company expects to get a temporary air mail rate soon from the Civil Aeronautics Board. A financial statement, showing expenses and revenues, is in the process of preparation and will be submitted to CAB soon.

Colombians Study Pick-Up—

All American Aviation has equipped an Avro Anson for Air Pick-Up for Limitada Nacional de Servico Aero (Lansa) of Bogota, Colombia. Arrangements for the installation were made on a recent visit to this country by Capt. Ernesto Recaman (center) and Mauricio Obregon (right), representing Lansa. The two are shown with Halsey R. Bazley, president of All American, following a trip over the airline's routes.

Latest Surplus Allocation Includes 34 Douglas DC-4s

The Surplus Property Administration, in its 21st allocation of surplus transport planes Dec. 1 allocated 34 Douglas DC-4 type aircraft (C-54s) of which 28 went to U. S. companies and six to foreign applicants. The following companies received the planes:

One Douglas C-54A to Douglas Aircraft; five C-54B transports each to Pan American Airways, Inc., and Eastern Air Lines, Inc.; four similar transports each to United Air Lines, American Airlines and Transcontinental & Western Air, Inc.; two to Western Air Lines; and one each to Braniff Airways, Delta Air Corp., and Chicago & Southern Air Lines, Inc.

Foreign applicants who received the C-54B type were: Panair do Brazil, two; Aerovias Nacionales de Colombia, one; Compania Mexicana de Aviacion, one; and Compania Argentina de Navegacion Dodero, two. The Tata Airlines of India received two Douglas DC-3 type C-53's.

American Grants Mechanics 10 Percent Wage Increase

Pay increases averaging 10.7 percent for mechanics of American Airlines became effective last fortnight. These raises include six paid holidays, extra pay for night shifts and extra pay for work on stated holidays, the company announced.

On Jan. 1, a 40-hour work week will replace the 48-hour work week, with the same weekly take home pay as the scale which went into effect last fortnight.

Airline Commentary

WE WISH to suggest a medal . . . Under our system it would be awarded once each day—to the Eastern Air Lines' stewardess who rides Trip 80 out of St. Louis east . . . This flight leaves St. Louis at 8 a.m. and shortly after departure the stewardess serves breakfast . . . A couple of hours later, out of Louisville, she serves lunch . . . Even allowing for load seats, this poor gal serves close to 40 meals during the trip . . . Because the St. Louis-Evansville-Louisville portion of the trip is flown at comparatively low altitude the ride may be a bit bumpy, and the day we took the ride two people were sick . . . This, of course, adds to Miss EAL's chores (she was so busy we didn't get her name—someone had neglected to post it on the door) . . . So, we suggest a medal . . . Maybe the gals could count 'em like points in the Army . . . After you got so many, you wouldn't have to take that trip any more . . .

Here we go again, presenting an idea . . . We were going to present it some months ago, but a couple of people laughed at it so, being a timid soul, we didn't write it . . . Now, one of our railroad spies tells us that the railroads plan special nursery cars for babies and children . . . So here's the idea, as removed from the mothballs: why doesn't some airline with a long route toy around with the idea of running "baby specials"? . . . More and more mothers with more and more children are traveling more and more by air . . . And if too many of them are on one trip, they cause the stewardess more and more headaches . . . So, when things get a little bit more normal, why doesn't some enterprising airline advertise a transcontinental "baby special" maybe twice a week . . . Some special equipment could be carried and maybe two stewardesses . . . Probably some charge could be made for the babies . . . We think that mothers who were planning a transcontinental trip (or a reasonably long trip) with their children would be willing to wait a couple of days to ride the special . . . Anyone wish to comment? . . .

Edwina "Bunny" Davis is leaving PCA . . . This isn't a startling news item, but it happens that Bunny Davis is one of the real veterans in the airline business, so she deserves a mention when she winds up her career . . . She's served as PCA's chief passenger relations agent in Washington . . . In point of service, she's one of the oldest woman airline employes, and has also been in the business longer than most men . . . Towards the end of this month she marries Navy Capt. Robert Bertschy . . . PCA has lost a good and loyal employe . . .

One of our foreign spies reports that Harold F. "Blackie" Blackburn of TWA's International Division has been receiving high offers to return to the Wonder Bar in Natal, Brazil, as First Pianist . . . On one occasion, according to these intelligence reports, he made an outstanding hit at the Brazilian bistro, and the natives want him back . . . Well, it's something to fall back on if it turns out that the airplane isn't here to stay . . .

We have here a swell slogan for a feeder airline that might be operating to vacation spots . . . It isn't original, but was contained in a book we just read (*The Civil Air War*, by C. G. Grey, the British aviation writer) . . . The slogan is: "From the Sooty Spots to the Beauty Spots" . . . Not bad . . .

No column would be complete without a gripe . . . This one is about cold airplanes . . . We took a fairly long trip recently . . . Boarding the airplane, we sat with our coats on until the cabin heating system started to work . . . There were several intermediate stops, at which some passengers wanted to go into the terminals and others wanted to stay aboard . . . By the time the former class left the plane, the others either had to leave also (to get warm in the terminal) or bundle up in a couple of blankets . . . We asked a friend of ours about keeping planes warm while they're on the ground at intermediate stations, and he said that in the winter some lines use hot air blowers . . . Well, our point is: why don't they use them? . . . Or do they disregard the weather and wait until the calendar officially records the beginning of winter? . . . Air transportation is supposed to be the most modern means of transportation . . . It's also one of the best means of catching a cold . . .

Royal Jordon, TWA's representative in Paris, is having a tough time finding a place to live . . . He found an apartment at $500 a month which was just the starting point because there was a "privilege" fee on top of that . . . A maid costs between $160 and $200 a month . . . This is the type of expense the airlines are finding in countries where there is inflation . . . And W. G. "Swede" Golien, TWA operations chief for Europe, also learned a little about expenses . . . He had his suit pressed and the bill was four bucks . . . Anytime you ride in a Paris taxicab under $5 you're doing well . . . Things are tough all over . . .

Dixon Speas, assistant to American's vice president-engineering, made an extremely interesting talk before the National Airport Club in Washington the other evening . . . It was on new airline airplanes . . . When he finished we pointed out to him that airline fares are now 4.5 cents a mile and asked him when he thought the next decrease would come . . . His answer was that lower fares which might be possible with the increased efficiency of the new airplanes might be offset by increased labor costs and inflation . . . Think that one over . . .

ERIC BRAMLEY.

HERE'S WHY

Western Air Lines, Inc.

P. O. BOX 391, BURBANK, CALIFORNIA

September 26, 1945

Major C. C. Moseley
Grand Central Airport Company
Grand Central Airport
Glendale, California

Dear Sir:

I wish to take this opportunity to advise you of a circumstance which, in my opinion, is remarkable.

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Charlie N. James

Charlie N. James
Vice President-Operations

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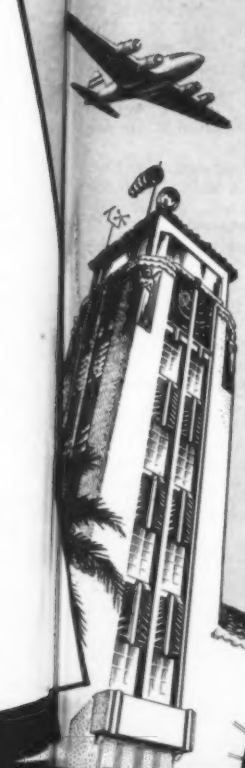

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Some Regulation of Non-Scheduled Aviation Seen

Would Prevent Chaotic, Unhealthy Conditions

By DANIEL S. WENTZ II

SOME MINIMAL TYPE of economic regulation of non-scheduled commercial aviation, aimed at preventing the unhealthy and chaotic conditions that marked the early, unregulated development of the motor carrier industry, seemed to most observers a foregone conclusion at the close of a two-day oral argument last fortnight on the Civil Aeronautics Board's Investigation of Non-Scheduled Air Services. (Docket 1501).

The operators themselves, speaking through a variety of industry groups, presented a strongly united front opposing any type of economic control, however slight. Spokesman after spokesman arguing for the fixed basers, urged the Board to adopt a strict *laissez faire*, hands-off policy toward the small operator. The industry, they argued, is in an embryonic stage. Its potentialities have never been thoroughly tested, and its fullest development cannot possibly be secured if it is loaded with any artificial shackles at the present time. Furthermore, the field of fixed base and charter operations, they said, is the only remaining sector of commercial aviation open to returning war veterans, and their possible entry into such activities should not be straitjacketed by economic regulations imposed by the Board. The arguments of all those opposing regulation turned on these two points.

Preventive for Haphazard Growth

The advocates of liberal economic regulation, including Public Counsel Philip Schleit, J. D. Duran of the Air Transport Association, and representatives of several air cargo operators, presented the case for a liberal type of economic regulation as a preventive for haphazard growth in the industry.

Significantly, the series of questions asked by members of the Board itself strongly impressed observers that they inclined to the belief that limited regulation, even in the industry's present stage of infancy, was probably necessary to ensure the orderly "development of an air transportation *system*" as required by the Civil Aeronautics Act.

Philip Schleit, Public Counsel, opened the proceeding with a very able resume of the record as developed in public hearings on the non-scheduled investigation. He corroborated the position of the fixed base operators themselves that factual data on the industry was extremely sparse, except for three surveys made by the CAB, the National Aviation Trades Association, and the National Association of State Aviation Officials.

Schleit urged the Board to revise the existing economic regulation exempting non-scheduled operations from economic regulation (the so-called Non-Scheduled Exemption Order) to clarify its terms and to provide a means whereby the Board can accumulate accurate operations and traffic data from the fixed base operators. He concurred generally with the recommendations of Examiners William J. Madden and Curtis C. Henderson, but felt that their proposals allowed too much latitude to the non-scheduled operator. Non-scheduled carriers should be required to carry adequate public liability insurance, Schleit said. He also suggested that cargo carriers be temporarily certificated for a 3-5 year period.

During the subsequent questioning of Schleit, CAB Member Harllee Branch developed on important point of view which seemed to be the key to the division between the advocates and opponents of regulation. Branch's questions indicated that in his view the fixed base operators, in their strong advocacy of "free enterprise," may have overlooked that fact that the Board is under a Congressional mandate to encourage and foster the orderly development of an air transportation "system," and that individual operations must some day become an integral part of an overall U. S. air transport network.

A series of representatives of the operators followed Public Counsel's presentation. William L. Anderson of the Pennsylvania Aeronautics Commission, stated that he was unalterably opposed to any type of economic or safety regulation of non-scheduled aviation. Richard Bircher representing the Pennsylvania Aviation Trades Association, urged that the industry be kept free of regulation to preserve opportunities for ex service men. Wayne Weishaar of the Aeronautical Training Society echoed Bircher's views. Roscoe Turner, President of the National Aviation Trades Association, pleaded that the small operator be allowed to show what he could do in developing non-scheduled and charter business without the additional burden of regulation. The same argument was followed by Gerald P. O'Grady, speaking for the New England Aviation Trades Association, who told the Board that non-scheduled operations would have only an extremely minor diversionary effect on scheduled carrier traffic. The United Pilots and Mechanics Association, represented by James W. Batchelor, also strongly opposed regulation.

The operators' case was considerably strengthened by a blanket endorsement of their position made by William A. M. Burden, speaking as Assistant Secretary of Commerce. The industry, Burden said, should be given from two to five years of unrestricted development, being allowed to grow along its own lines before economic regulations are applied. He pointed out, however, that this program would not only encourage the industry to grow; it would also offer opportunities for uneconomic operators to go broke. Burden stated that statistical reports on non-scheduled operations should be required to enable the Board to follow the growth of the industry.

The strongest case favoring regulation was made by J. D. Duran, speaking for the Air Transport Association. The present exemption order under which non-scheduled operations go unregulated, is unclear, said Duran, and should be repealed. In its place, he suggested that some type of classification such as that proposed by the examiners in the Board's investigation be installed, and that under this classification, the groundwork for a system of economic regulation be laid.

Oliver Assistant Director Of CAB Economic Bureau

Robert W. Oliver, who served four years as an attorney with the Civil Aeronautics Board before being commissioned in the Navy two years ago, has been appointed assistant director of the Economic Bureau of the Board. While in the Navy Lt. Oliver served as a legal and liaison officer in the Naval Air Transport Service where he was in charge of the Navy's contracts with commercial airlines for air transport services. During his four years with the Board, he served as an attorney in its Economic Bureau and later as principal attorney in the office of the General Counsel. In the latter position Oliver specialized in the field of domestic and international air mail rates.

Oliver

AA Asks Speedy Decision On 10 Non-Stop Proposals

Attorneys for American Airlines appeared before Civil Aeronautics Board Examiner James S. Keith at a prehearing conference last fortnight asking a speedy hearing and an early decision on 10 non-stop proposals involving points on American's Routes 4, 23 and 30. The rapid determination of the case, AAL counsel Fred M. Glass declared, is necessary to permit American to complete final scheduling plans for the DC-4 equipment which will soon be available on domestic operations.

At a hearing now scheduled for Dec. 19, American proposes to show that the non-stops it is asking not only are not adverse to the public interest but will actually provide numerous advantages for long haul passengers.

Counsel for TWA stated that it opposed granting the non-stops because of their adverse competitive effect upon other carriers. At the request of Public Counsel, TWA will prepare estimates of the amount of traffic American's proposals might divert.

The non-stops for which American is asking CAB approval include:

New York-Oklahoma City; New York-Tulsa; Washington-Tulsa; Washington-Oklahoma City; Chicago-Tulsa; Chicago-Oklahoma City; Tulsa-Tucson; Tulsa-Phoenix; Tulsa-Los Angeles; and Oklahoma City-Los Angeles. (Docket 2136).

CAB Division Retitled

The Division of the CAB handling information on aviation outside the United States has been retitled the Foreign Air Transport Division. The same office has variously been named Office of Air Transport Information, Office of Air Transport Information Division, and Air Transport Information Division, causing confusion both because of the sweeping coverage implied in the titles and their frequent revision. Harold A. Van Dorn remains as chief of the Division.

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Two Cuban Airlines Heard On Havana-Miami Application

Ask Foreign Air Carrier Permit; Big Demand Cited

By FRANK M. HOLZ

THE CAB held hearings this past fortnight on applications by two Cuban airlines for a foreign air carrier permit for scheduled transportation of passengers, mail, and cargo between Havana and Miami. J. Earl Cox was examiner on both applications: Expreso Aereo Interamericano (Docket 2012) and Compania Cubana de Aviacion (Docket 1887).

Expreso has been operating at a loss since it began service in early 1943 because only uneconomical aircraft were obtainable in a wartime period of severe equipment shortages, according to testimony by Lewis Brereton, Jr., U. S. representative of the company. He said the public demand for air transport both on the Havana-Miami route and within Cuba is so great that operations would have been and are profitable with more modern equipment, as the company has found with the recent extension of Lodestar operations.

Luis Machado, secretary and general counsel for Expreso, stated that despite operation at a loss thus far, the company is in sound financial condition. He said that at present there are no scheduled ship passenger services between Cuba and the U. S. and the need for urgent business travel must be met by air transport. Reservations for air travel must now be made in advance from a few days sometimes to weeks.

Sufficient to Prove Control

Expreso filed legal certification of the Cuban nationality of 51 shareholders whose combined holdings total a little more than half of the stock. Further certifications were not sought as these were sufficient to prove Cuban control of the company. Shares are distributed among more than 900 holdings.

In reply to Public Counsel's question, Machado replied that the late Jack Nichols, a vice-pres. of TWA, acquired his stock in his individual capacity and before he became associated with the U. S. airline. There is no official connection between Expreso and TWA, he stated.

Expreso contemplates a $20 fare between Havana and Miami or about 6½ cents a mile.

The hearing on the application of Cubana, was held within a week after Expreso's testimony. Gerard D. Grossman, general manager of Cubana, was the only witness called.

Cubana is empowered by its Certificate of Incorporation to issue 100,000 shares of stock at a par value of $10, he said, adding that only 50,000 shares have been issued, all of them held by Pan American Airways. Cubana intends to issue the remaining 50,000 shares authorized, of which 2,000 are to be subscribed to by PAA, which would thus retain control.

Cubana proposes to initiate service with one round trip daily, using Douglas DC-3A aircraft and providing through service between Miami and Santiago. Grossman stated that not only was there sufficient traffic demand now for Havana-Miami service to warrant a permit but that Cubana's network serving 17 Cuban points would generate new traffic.

The airline now operates two DC-3s, two Lockheed Electras, and one Ford Trimotor. It is expected that two more DC-3s will be put into service in the near future. All the DC-3s were acquired this year.

Cubana has the air mail contract for all of Cuban territory except an Expreso run between Cuba and the Isle of Pines. In addition to air mail, Cubana now carries first class mail Havana-Camaguey-Santiago, the first such arrangement in the western hemisphere, Grossman stated. The present air mail contract discontinues the subsidy feature of the preceeding contract.

Norwegian Carriers Propose Operations Into United States

Norway last fortnight became the third Scandinavian country whose international air carriers propose trans-Atlantic operations into the United States, when Royal Norwegian Air Transport, a State Agency of the Royal Norwegian Government asked the Civil Aeronautics Board to issue it a foreign air carrier permit authorizing service between Oslo, New York and Chicago. Applications of Swedish and Danish air lines have already been heard by CAB examiners.

Royal Norwegian Air Transport (RNAT —Norges Luftfartstyre), Roald Amundsens Gate 1, Oslo, applied specifically for the authorization of scheduled mail, passenger and express service over a route between Oslo and/or Stavanger, Norway, and New York and/or Chicago via Iceland, Greenland, Newfoundland, Canada, the United Kingdom, and the Azores. It asked specific permission to serve New York and Chicago either separately or on the same flight, and stated that the intermediate points listed would provide a variety of alternate weather routings. According to the application, service is planned to be inaugurated with two weekly round trips, with frequencies increasing thereafter in relation to traffic demands.

RNAT, as a State Agency, is under the jurisdiction of the Norwegian Ministry of Defense (Forsvarsdepartementet). Its ten-man Board of Directors, who are appointed by the King, is headed by Einar Isdahl, who is also Managing Director of the company. By Royal Decrees of Nov. 19, 1943, and March 9, 1945, RNAT is charged with preparing for the resumption of Norwegian Civil air transport, both domestic and foreign. Under an air transport agreement between the United States and Norway, confirmed by an exchange of notes dated Oct. 6, 1945, RNAT has been designated as the Norwegian carrier to operate into the United States.

Fares Slightly Over 3 Cents

Air fares of the major airlines actually have dropped to the point where they average only slightly over three cents a mile, in terms of the 1940 level of purchasing power, it was pointed out recently by W. A. Patterson, president of United Air Lines. Patterson called attention to the drop in the purchasing power of the consumer's retail dollar from $1.00 to 71 cents since 1940. Meanwhile, United and other major airlines have reduced their fares from 5½ to 4½ cents per mile. The effect, Patterson said, is an average rate of 3.2 cents per mile in terms of the 1940 dollar.

Part Played by Danes In Scandinavian Group Told CAB Examiner

Denmark's part in the three-carrier Scandinavian airline group which will operate trans-Atlantic services between Norway, Sweden, Denmark and the United States, was described to a Civil Aeronautics Board examiner last fortnight by Knud Lybye, Managing Director of Det Danske Luftfartselskab, A/S (DDL—Danish Air Lines).

DDL, Lybye testified, has purchased two Douglas DC-4s which it hopes to have delivered by next February or March and operating in scheduled trans-Atlantic mail, passenger and express service by April. These aircraft, he told Examiner Frank A. Law, Jr., will be operated in cooperation with the planes of Swedish Intercontinental Air Lines and Royal Norwegian Air Transport, under a working agreement which seems likely to produce the equivalent of seven weekly round trips. This agreement, Lybye said, has not been formally worked out, but will be reached among the three carriers rather than by the Governments they represent.

Lybye testified that his company has been designated under a 20-year concession from the Danish Government as the carrier to perform the international service provided for under an executive agreement between the U. S. and Denmark effective Jan. 1 of this year. Under a 10-year agreement with the Danish Government, DDL receives subsidy payments varying on a sliding scale in relation to the ton/kilometers the carriers operates. It also receives an annual subsidy from the Municipality of Copenhagen, Lybye said.

During a discussion of DDL's stock ownership, it transpired that 94% of the line's stock is in the hands of Danish nationals, with 17% being held by the Government itself. Danish shipping and manufacturing interests hold other sizeable blocks. DDL is not a party to any cartel, financial or operating agreement which would effect its financial or operating control, Lybye testified.

American Overseas Airlines, an intervener, stated through its attorney that it did not oppose DDL's application for a foreign air carrier permit.

CAB Proceedings

(A Summary of Applications Filed, Orders Issued, and Future Actions of the Civil Aeronautics Board.)

Orders:

4201—Authorizing Delta Air Corp. to serve Chicago through the use of the Chicago Municipal Airport.

4202—Approving Pennsylvania-Central Airlines' notice of intention to operate non-stop between Washington and Buffalo on Route 34.

4203—Authorizing Pan American Airways to serve Honolulu, T. H., through the use of the Honolulu International Airport (Honolulu Naval Air Station).

4204—Authorizing National Airlines to operate non-stop between Norfolk, Va., and New York on Route 31.

4205—Consolidating applications of American Airlines, Docket 932; United Air Lines, Docket 1903; TWA, Dockets 1740 and 2073; and PCA, Docket 2111, into a single route consolidation proceeding. (Docket 932 et al.)

4206—Authorizing American Export Airlines to serve Chicago through the use of the Chicago Municipal Airport.

4207—Authorizing American Export Airlines to serve Washington through the use of the Washington National Airport and Philadelphia through the Philadelphia Municipal Airport (Southwest Airport).

4209—Authorizing National Airlines to serve Philadelphia through the use of the Southwest (Municipal) Airport.

4210—Denying an application of Essair, Inc., for a temporary exemption order to permit it to originate and terminate flights at Austin, Texas, an intermediate point on its Route 64. (Docket 2056).

4211—Dismissing the application of Richard W. Putnam and I. V. Bartlemay in Docket 1786 at the applicants' request.

4212—Permitting the City of Alpena, Mich., to intervene in the Great Lakes Area Case. (Docket 535 et al.)

4213—Approving an agreement between All American Aviation, Inc., and other members of the Air Traffic Conference of American relating to the Air Traffic Conference Agency Resolution. (Agreement C.A.B. No. 403-A).

4214—Authorizing the City of Concord, N. H., to intervene in the New England Case and denying the city's motion to incorporate additional evidence in the record. (Docket 399 et al.).

4215—Approving an agreement between Pennsylvania-Central Airlines and American Airlines relating to porter service for PCA at Buffalo, N. Y. (Agreement C.A.B. No. 444).

4216—Authorizing the City of Sioux City, Iowa, to intervene in the Great Lakes Area Case. (Docket 535 et al.).

4217—Permitting the City of Laconia, N. H., to intervene in the New England Case. (Docket 399 et al.).

4218—Authorizing Yukon Southern Air Transport Limited to serve Fairbanks, Alaska, through the use of Weeks Field (Fairbanks Municipal Airport).

4219—Instituting a mail rate proceeding for Pan American Airways Pacific area commercial routes. ((Docket 2147).

4220—Authorizing American Export Airlines to intervene in the proceeding in which Danish Air Lines (D.D.L.) is seeking a Copenhagen-New York foreign air carrier permit. (Docket 2077).

4221—Denying the motion of United Air Lines for consolidation of its new route application in Docket 2074 with the American Airlines-Mid-Continent Airlines merger case and the request of Braniff Airways that its Docket 2097 be consolidated with the same proceeding. (Docket 2068).

4222—Authorizing Braniff Airways; Chicago and Southern; Delta Air Corp.; TWA; United Air Lines; Air Line Pilots Association; and the United Automobile-Airicraft-Agricultural Implement Workers of America to intervene in the American Airlines-Mid-Continent Airlines merger case. (Docket 2068).

4223—Authorizing Transcontinental & Western Air to serve Philadelphia through the use of the Southwest (Municipal) Airport.

4224—Authorizing United Air Lines to serve Philadelphia through the use of the Southwest (Municipal) Airport.

4225—Authorizing All American Aviation, Inc., to serve Philadelphia through the use of the Southwest (Municipal) Airport.

4226—Authorizing Delta Air Corp. to serve Greenville-Spartanburg, S. C., through the use of Greenville, Municipal Airport and Spartanburg Memorial Airport.

Calendar:

Dec. 17—Further hearing on the unfinished portions of the Mississippi Valley Case. (Docket 548 et al.) 10 a. m., Foyer, Commerce Auditorium. Examiners Ferdinand D. Moran and James S. Keith.

Dec. 19—Hearing on American Airlines' non-stop proposals in Docket 2136. Examiner James S. Keith.

Jan. 2—Hearing on Pan American Airways application for amendments to its trans-Atlantic certificates. (Docket 2076). 10 a. m., Conference Room "C," Departmental Auditorium. Examiner Ross I. Newmann.

Jan. 7—Hearing on the application of Aerovias Braniff, S. A., for a temporary foreign air carrier permit. (Docket 2107). 10 a. m., Conference Room "C," Departmental Auditorium. Examiner Charles J. Frederick.

Jan. 7—Oral argument in the New England Case. (Docket 399 et al.). 10 a. m., Room 5042, Commerce Building.

Jan. 21—Hearing on American Airlines-Mid-Continent Airlines Merger Case. (Docket 2068). Tentative.

Jan. 28—Hearing in the Middle Atlantic Case. (Docket 674 et al.). Postponed from Jan. 14. Examiners Charles J. Frederick and Richard A. Walsh.

Feb. 5—Hearing, Kansas City-Memphis-Florida Case. (Docket 1051 et al.). Tentative.

Feb. 18—Hearing in the Board's Investigation of the Universal Air Travel Plan. (Docket 1939). Examiner Charles J. Frederick. Postponed from Dec. 17.

Mar. 11—Hearing in the Boston-New York-Atlanta-New Orleans Case. (Docket 730 et al.). Examiners Thomas L. Wrenn and Lawrence J. Kosters. Tentative.

April 1—Hearing on Pan American Airways application for U. S. domestic routes. (Docket 1803). Tentative

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4227—Denying an application of All American Aviation, Inc., for a temporary exemption order authorizing the experimental use of combination passenger-pick up service between Pittsburgh and Huntington, W. Va., on the company's pick-up Route 49. (Docket 2125).

4228—Denying Woodley Airways petition to intervene in the proceeding in which Martin Air Service is seeking an Alaskan certificate or exemption order. (Docket 2045).

4229—Authorizing Woodley Airways to intervene in the proceeding in which Northern Airlines is seeking an Alaskan certificate of convenience and necessity. (Docket 1835).

4230—Authorizing Woodley Airways to intervene in Northern Airways certificate proceeding in Docket 1997.

4232—Authorizing Woodley Airways to intervene in Lavery Airways certificate proceeding in Docket 2037.

4233—Authorizing Woodley Airways to intervene in the proceeding on the application of Phillip Dwight Thorpe in Docket 2027.

4234—Authorizing Woodley Airways to intervene in the proceeding on the application of Grenold Collins in Docket 1976.

4235—Authorizing Woodley Airways to intervene in the proceeding on the application of Merle W. Smith in Docket 2028.

4236—Authorizing Woodley Airways to intervene in the proceeding an the application of Robert C. Reeve, doing business as Reeve Airways, for a certificate or convenience and necessity or an exemption order. (Docket 1930).

4237—Authorizing Woodley Airways to intervene in the proceeding on the application of Toivo A. Aho and Dallas L. Bowen, a partnership doing business as Aho Flying Service, for a certificate of convenience and necessity. (Docket 1962).

4238—Authorizing Northwest Airlines to operate non-stop between Minneapolis-St. Paul and Spokane, Wash.; between Minneapolis-St. Paul and Seattle; and between Seattle and Billings, Mont., on Route 3.

4239—Approving National Airlines' use of Bluethenthal Army Air Field to serve Wilmington, N. C., on Route 31.

4240—Certificating Ogden, Utah, as an intermediate point on United Air Lines' Route 1.

4241—Permitting the City of Evansville, Ind., and the Louisville and Jefferson County Air Board to intervene in the Cincinnati-New York—Additional Service Case (Docket 221 et al.) and denying a request to intervene filed by the Louisville Board of Trade.

Applications:

American Airlines for permission to operate non-stop services between: Washington and Oklahoma City; Washington and Tulsa; New York and Oklahoma City; New York and Tulsa; Tulsa and Los Angeles; Oklahoma City and Los Angeles; Tulsa and Phoenix; Tulsa and Tucson; Chicago and Tulsa; and Chicago and Oklahoma City. (Docket 2136).

Kenneth K. Armstrong, Dillingham, Alaska, for a permanent certificate or exemption order authorizing non-scheduled passenger and property service to all points within an unrestricted radius of Dillingham, Alaska, and charter trips between all points in the Territory. (Docket 2130).

Stanley F. Chmiel, Naknek, Alaska, for a permanent or temporary certificate or exemption order authorizing non-scheduled passenger and property service to all points within a 150-mile radius of Naknek and charter trips between all points in the Territory. (Docket 2134).

Coastal Air Express, Inc., c/o Matthias J. Hayes, 1929 S Street, N. W., Washington 9, D. C., for a certificate authorizing scheduled mail passenger and property service (with seasonal suspension during winter) by seaplane between Gulf Seaplane Base, N. Y., and Northeast Harbor, Block Island, R. I., via various intermediate points on Long Island; between Gulf Seaplane Base and Port Jefferson Harbor, Port Jefferson, L. I., via various intermediate points on Long Island; and between Gulf Seaplane Base and Schlossbach Airport, Asbury Park, N. J., via Red Bank, N. J. (Docket 2138).

Colonial Airlines, for amendment of its certificate for Route 72 to designate Newark, N. J., as a co-terminal with New York. (Docket 2144).

Dartmouth Airways, c/o Richard W. Putnam, 90 South Main Street, Hanover, N. H., for a permanent or temporary certificate authorizing non-scheduled passenger and property service over a 240-mile route between West Lebanon, N. H., and New York City via Claremont, N. H., Springfield, Vt., and Springfield, Mass., and charter trips between all points in the United States. (Docket 2139).

Captain Kendall Winton Everson and Captain John Thomas Daugherty, Naval Air Station, Patuxent River, Md., for a permanent or temporary certificate authorizing scheduled mail, passenger and property service over a 164-mile route between Washington and Norfolk via Patuxent River, Md., and West Point and Williamburg, Va. (Docket 2137).

Julius E. Nervo, 222 "B" Street, Santa Rosa, Calif., for a temporary certificate authorizing scheduled mail, passenger and property service over a 100-mile route between Santa Rosa and Sacramento, Calif. (Docket 2149).

Pan American Airways for a temporary exemption order authorizing landplane service between New York and Lisbon via Gander, Newfoundland, and Shannon, Eire, and the temporary discontinuance of the Mid-Atlantic service until landplane facilities are available on the route. (Docket 2146).

Reeve Airways (Robert C. Reeve), P. O. Box 79, Anchorage, Alaska, for a permanent or temporary certificate or exemption order authorizing scheduled and non-scheduled passenger, property and mail service between Anchorage and Umnak Island via Cold Bay and Dutch Harbor, Alaska. (Docket 2143).

Silver States Airways, c/o Col. Lance Call, 3028th AAF Base Unit, Luke Field, Phoenix, Ariz., for a permanent or temporary certificate authorizing scheduled mail, passenger and property service over 2156 miles of proposed routes in California, Arizona, Utah, and Nevada. (Docket 2135).

Sam O. White, Box 73, Fairbanks Alaska, for a permanent or temporary certificate or exemption order authorizing (a) non-scheduled passenger and property service to all points within a distance of 100 miles of the North bank of the Yukon River beginning at Ruby and terminating at the mouth of the Yukon River; and within a distance of 75 miles from the south shore of the Yukon River, beginning at Ruby and terminating at the mouth of the Yukon River; to all points between Koyukuk Station on the Yukon River at the junction of the Yukon and Koyukuk Rivers to a distance of 100 miles easterly and westerly from either shore to Hughes, Alaska, on the Koyukuk River; (b) transportation of mail between the above-named points when it is to the convenience of the residents and the carrier who normally carries mail over said route; and (c) charter trips between all points in the Territory. (Docket 2131).

Was NAL-Caribbean Atlantic Deal Illegal? CAB Must Decide

NAL Attorney Declares Company Not in Control

THE National Airlines-Caribbean Atlantic Airlines acquisition case—and the legal question of whether or not National has illegally acquired control of the Puerto Rican carrier—were problems for the Civil Aeronautics Board to determine after a one-day oral argument last fortnight.

John W. Cross, National's attorney, assured the Board that both legally and in actual fact, his company has not acquired control of CAA. Public Counsel Louis W. Goodkind seemed equally certain that an acquisition had been accomplished and that both carriers had violated the Civil Aeronautics Act by not seeking Board approval prior to consummating the sale agreement.

Goodkind, in his opening presentation, charged that G. T. Baker, president of National, and Dennis Powelson, president of Caribbean-Atlantic had "knowingly and wilfully" arranged the acquisition deal in such a way as to complete the transaction before asking CAB's approval. Powelson, Goodkind declared, had made actual completion of the deal before seeking the Board's approval a condition of the sale.

The Board, Goodkind warned, cannot be placed in the position of having to pass upon a *fait accompli*. Its authority over acquisitions of control, he said, is limited by the fact that it does not possess the power to hold an acquisition under continuing review once it has been approved. He argued, therefore, that it must not have its decisions influenced by the fact that parties to an acquisition have already consummated their contract before presenting it for CAB approval.

The minute detail with which National has been regulating Caribbean-Atlantic's affairs under an equipment lease agreement, is ample proof that control has been acquired, Goodkind said. He asked the Board to disapprove the deal on the ground that it had been accomplished illegally and that it was not in the public interest, rebuking the two carriers in its opinion in language strong enough to serve as a warning against similar future transactions.

Commenting on the recommendation of Ferdinand D. Moran, the Board's examiner in the case, that Caribbean-Atlantic should be investigated to determine whether it is fit, willing and able to operate the Puerto Rican and inter-island routes for which it is certificated, Public Counsel said that in his view, such an investigation lay beyond the Board's legal powers.

National's attorney, however, told the Board that his client had not acquired and does not possess legal control of Caribbean-Atlantic. The CAA stock National holds, Cross declared, is non-voting, and the management of the Puerto Rican carrier has been left completely in the hands of its president, Dennis Powelson. Cross charged Examiner Moran with inconsistency in finding that the equipment lease agreement between the two carriers was in the public interest and then branding as "domination" the activities of National under the agreement's terms.

It is utterly unthinkable, Cross declared, that the top administrative officers of two airlines whose entire futures are dependent upon the Civil Aeronautics Board should risk incurring that Board's displeasure through committing an illegal act. Assuming for purposes of argument that the Act had been violated, Cross then declared that it was logically impossible for the Board to disapprove the acquisition, if it were found to be in the public interest, because a violation had occurred. He questioned the Board's legal powers to use disapproval as a penalty.

Cross cited the numerous improvements in service—including better equipment, more frequent schedules and lower fares—made in the operations of Caribbean-Atlantic under the equipment lease agreement with NAL, as primary reasons for approving the acquisition as in the public interest.

Examiners Start Work On 1st Case With No Hard Assets Involved

Civil Aeronautics Board examiners began work with a prehearing conference last fortnight on the first case to come before the Board proposing the sale of a certificate of convenience and necessity *per se*, with no hard assets involved—Arizona Airways proposed acquisition of Transcontinental & Western Air's Route 38. As discussion at the conference developed, it appeared that the proceeding may involve a series of legal complexities far out of proportion to the size of the route in question.

John T. Cross, representing Arizona Airways, an air transport operating company set up by three co-partners in the Air-Safe Co., a Western *Ercoupe* distributor, declared that the operation of Route 38 by an independent carrier who planned to concentrate on its local service aspects was eminently in the public interest. (Route 38 extends from Phoenix, Ariz., to Las Vegas, Nev., via Prescott and Kingman, Ariz., and Boulder City, Nev.) Cross stated that his exhibits would prove the fitness, willingness and ability of Arizona Airways to conduct the operation, and asked an early hearing on the application. United Air Lines appeared as an intervener.

Eastern Air Lines Proposes Fifth Transcontinental Route

Would Link West Coast With Florida, Puerto Rico

EASTERN AIR LINES last fortnight laid before the Civil Aeronautics Board a proposal for a fifth transcontinental air route, linking San Francisco and other West Coast points with Florida and Puerto Rico and tying 60 Southern and Southwestern cities into extensions of its present route system, in an application for some 7,409 miles of new routes.

The year-round good-weather southern transcontinental route proposed by Eastern would include two major lines from Texas points to the West, the first a southern route extending from San Antonio to San Diego, Los Angeles and San Francisco; the second a northern branch starting at Beaumont-Port Arthur, Texas, and extending to San Francisco via Fort Worth-Dallas and numerous other points.

To tie in with these western extensions, Eastern also asked the Board for a trans-Gulf cut-off between New Orleans, Tampa and Miami, and a Caribbean extension from Miami to San Juan, P. R. This route system, the application stated, would provide interconnections for trans-Pacific traffic and for travel to and from Latin America, Africa and the Mediterranean area at Miami and San Juan.

Eastern's application pointed out that it has pending in CAB's Florida case an application for routes linking Miami and New Orleans or Miami, Tampa and New Orleans, and that on the record made in that proceeding Eastern "has reason to believe that the Board will act favorably on that application, in which event Eastern would be already certificated all the way between Miami and San Antonio, as a route premise from which to make the proposed extensions to the Pacific Coast."

The application also stated that Eastern "has reason to believe that the Board will grant its applications" in the Latin American case, "in which case Eastern would be certificated for service not only into Mexico City and as far south as Canal Zone, but also east from Miami to Puerto Rico, thus, in connection with the extension sought in the Florida Case, creating a route premise all the way between Puerto Rico and San Antonio, from which to extend the services of Eastern to the Pacific Coast."

There is a "glaring absence," Eastern told the Board, "of a trunk-line route directly connecting the Pacific Coast with the Southeastern part of the United States, pointing out that the four existing transcontinentals focus on New York City and the Northeast, and there is no trunk line carrier operating along the Southern border of this country, directly between Miami, Florida, and the great California cities of Los Angeles, San Francisco and Oakland."

The application requested that the Board grant the new routes as extensions of Eastern's present Route 5. The Lockheed *Constellation*, the Douglas DC-4 and DC-6, and the Martin Two-O-Two are listed in the application as the aircraft Eastern plans to use.

THE SIMMONDS (REGISTERED) GAUGE

The First Electronic Fuel Gauge

to be used by

AIRLINES IN THE UNITED STATES

The installation of Simmonds Pacitor Fuel Gauges on a fleet of 50 Douglas C-54 transports recently acquired by American Airlines, marks the introduction of an advanced electronic fuel measuring system to domestic airline operation. Simultaneously, these instruments have been specified for the giant Douglas DC-6's being built for commercial use.

The basic principle of the Pacitor Gauge makes use of a change of the electrical capacity of a condenser (tank unit) when the dielectric changes from liquid to air, these changes being measured electronically and recorded on the cockpit indicator. A totalized reading, rather than one dependent only on a liquid level, is achieved despite changes in flight attitude or temperature. The Pacitor Gauge has no moving parts except the indicator pointer in the dial, thus requiring a minimum of servicing. It gives greater accuracy and reliability than float-type or conventional gauges, and is easily adapted to any type of aircraft. For illustrated literature or further information, write the Simmonds office nearest you.

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Design Sessions Feature SAE Chicago Meeting

Three Days Given to Transport Engineering

By SYDNEY CARTER

DRAWING heavily on experience gained in working out the cockpit arrangements for the Boeing Stratocruiser, M. F. Vanik, airworthiness requirements engineer, Boeing Aircraft Co., opened the recent three day National Air Transport Engineering Meeting of the Society of Automotive Engineers with a detailed analysis of "Flight Engineer Station Design and Requirements," which led to the following conclusions:

1. Regulatory requirements for flight engineers are entirely flexible and depend primarily on design of the aircraft and the type of operation.

2. Flight engineers may be needed to act in one or more functions as a pilot aid, powerplant technician, or flight mechanic.

3. With a properly designed aircraft, a flight engineer should not be required for short or medium range domestic operation, but a flight mechanic is desirable for long range domestic operation, and a flight engineer essential for long range intercontinental operation.

4. Due to the flexible payload-range characteristics of modern four-engine aircraft, cockpit provisions should be sufficiently flexible to provide for operation with or without either a flight engineer or flight mechanic.

5. The primary criteria of flight engineer station design should be to provide maximum coordination of action with pilots, and controls and instruments should be so disposed as to be conveniently accessible to at least two of the three-man flight crew.

Make Functional First

6. While a complete separate flight engineer station is justified for long range operations where the engineer's duties and functions are extensive, coordination with flight crew should be the primary criteria of final arrangement.

7. Instrument and control arrangement should follow criteria of "First make it functional, then add sweetness."

8. Future development regarding simplification of controls is progressing and looks promising.

In this connection Vanik cited such possibilities as automatic mechanisms for controlling cowl flaps and exhaust pumps which would eliminate the cowl flaps entirely; automatic fire extinguishing systems which would warn crew members of fire, and then if no action was taken, would perform all necessary operations up to and including discharge of the extinguishing agent; automatic flight controls which would correlate and integrate manifold pressure, propeller rpm, mixture and throttle setting in one control for each engine; a control means for automatically feathering an engine after having given the pilot appropriate warning in the event improper rpm, manifold pressure or temperatures occur; an instrument which would correlate true indicated airspeed with fuel flow consumption resulting in a final reading which would give the pilot continuous information in terms of miles per gallon, and the use of the formation control stick in instrument or weather let downs.

Any suggestion that the manufacturers had solved the problems of cockpit arrangement was dispelled, however, by Capt. H. J. Chase, Pan American Airways, who presented a paper on "Control Decks for Long Range Aircraft" from the pilot's standpoint. Starting in on the question of location of the crew stations, Capt. Chase laid down six basic principles which should be considered: (a) relative distance between pilot and co-pilot; (b) relation of pilot and co-pilot to the instrument panels and necessary controls which they must operate; (c) flight engineer's station—this should be close to and behind the copilot with the panel readily visible from the captain's station; (d) jump seat station—should be behind the captain but capable of swinging to a central position between the pilots; (e) radio operator's station—should be behind flight engineer and preferably face forward; and (f) navigator's station—should be on left side behind jump seat with navigator facing forward, but with chair adjustable forward, backward and vertically.

Can Improve Design

Other points where Capt. Chase believed there was considerable room for improvement in flight deck design included vibration control through shock-mounting personnel stations and controls; visibility—he predicted the day would come when weather minimums were down to 50 ft. and one eighth mile; ventilation, which he called a major cause of pilot illness; lighting which he said was currently inferior to home radios and automobiles; instrumentation with particular emphasis on standardization; reduction of noise levels so the captain could talk directly to crew members without use of the interphone; and the elimination of protruding parts and sharp corners.

In the discussion following these two papers, William Littlewood, vice president engineering, American Airlines, who presided, raised the question as to whether the flight engineer might not be needed more on short range domestic rather than long range operations due to the added number of take-offs landings and instrument let downs which occupied the pilot. He pointed further that there would be less of a weather problem at the high altitudes at which the long range flights would operate.

Commander Paul Burr, Navy Bureau of Aeronautics, suggested the formation of a committee similar to the Navy's cockpit committee to work out standardized arrangements, and Capt. Chase pointed out that to be successful, such a committee would have to plan a coordinated cockpit and then submit its recommendations back to the operating pilots.

The second design session, presided over by R. D. Kelly, superintendent of development, United Air Lines, was likewise devoted to the problems of large overwater aircraft. In a paper prepared by himself and R. O. Jacobson, John G. Borger, Pan American Airways, discussed emergency equipment for overwater operation, and stated that in his company's opinion the large four-engine landplane with a pressurized cabin offered many advantages with no loss in safety over the flying boat. He said that low wing types were definitely superior from the safety standpoint, and that designs with a double type fuselage similar to the Boeing Stratocruiser were the safest of all. He stressed the necessity for keeping emergency exits and such vital equipment as radios, batteries, etc., above the waterline, which should be determined in advance by tests with models.

He cited how such tests had been undertaken by Douglas on the DC-2, and how through proper arrangement of equipment Pan American had made the DC-3 so safe that on one occasion a DC-3 forced down at night in the water was towed 15 miles to shore and beached after 52 hours on its own landing gear.

Provisions for overwater operation were divided into (1) Provisions for flight regularity, and (2) Provisions for emergency ditching in a paper by Frank R. Canney, Boeing Aircraft Co. The former, he said, included: (A) A minimum of four main power units and complete protection from weather to assure completion of all scheduled flights; (B) Pressurized cabins and supercharged engines to permit capitalizing on the assistance afforded by the unusually strong winds at various altitudes along overwater routes; and (C) High cruising speeds, which, coupled with the wide range of operating altitudes, permit improved operating economy. In this connection he pointed out that the increased range required to meet a 90 mph headwind would be 81.8 percent for a 200 mph cruising speed and only 29 percent for a 400 mph cruising speed. Cost increase for the former aircraft, he said, would be 7.5 percent, and for the latter only 2.1 percent.

Provisions For Ditching

Under provisions for ditching Canney listed: (A) A relatively clean, sturdy underside to provide comparatively free planning characteristics for the surfaces submerged during the ditching deceleration period, and to withstand and reduce the attendant loads on the aircraft and its occupants; and (B) A configuration with respect to the ditching stations and exits, permitting occupants of the aircraft to survive the ditching and readily escape to life rafts.

Revealing hitherto undisclosed records on the B-29, Canney disclosed that accumulated ditchings from all causes had been reduced from one for each 72 sorties at the end of February 1945, to one for each 259 sorties at V-J Day. When ditchings from known combat causes were excluded, this overall rate was further reduced to one for each 404 sorties, or one for each 1,250,000 miles flown, with power plant failure the biggest single cause.

He then went on to show that in a four-engine aircraft in commercial operation over the North Atlantic, ditchings due to this cause should not be more than one in 16,576 flights, or assuming 21 flights a week, not more than one in about 12 years.

Air Travel Should Remain Luxury, EAL Doctor Believes

Suggests Standardization On Aircraft Interiors

AIR TRAVEL is and always has been luxury travel, and the airlines should provide all the luxury possible both from the physiological and psychological standpoint, Dr. Howard K. Edwards, medical director, Eastern Air Lines, told SAE members and guests at the recent National Air Transport Engineering Meeting in Chicago.

He recommended further that the airlines standardize on certain type ships and interiors so that the passenger will feel at home regardless of the line on which he is riding.

In designing the cabin interior, he pointed out that there are so many psychological factors involved in the selection of the proper colors and contours that these should be determined by specialists in each particular field, rather than being based on the personal preferences of the design engineer. By way of illustration he listed the properties of various colors, showing finally that green represented the best compromise for an aircraft interior.

Need 'Maximum Thinking'

Edwards stressed the need for thinking in terms of maximum rather than minimum physiological requirements as is being done at present, illustrating this with the need for better heating and ventilation. Too much heat, he said, tends to promote airsickness, but on the other hand, too little makes the trip seem long and emphasizes other passenger discomforts.

In the matter of noise levels he pointed out that the decibel level of the present day transport averages over 100 as against a level of only 45 for the automobile and 35 for the home. He said that the passenger cabin level must be brought down to 45 and eventually 35, and that the cockpit level should be reduced at least to 55.

Turning to the question of oxygen, Dr. Edwards reported that recent tests had demonstrated a 23 percent loss of night vision at the 5,000 ft. level, and other systems of anoxia at 8,000 ft. He also recommended the inclusion of oxygen and oxygen masks in pressurized cabin aircraft as insurance against the day when a window blew out or some other contingency resulted in sudden decompression. He further suggested the installation of a loudspeaker system in pressurized transports by means of which the pilot could instruct the passengers how to put on their oxygen masks and how to equalize for pressures during the period following a sudden decompression.

On the whole question of safety measures, Dr. Edwards said he thought a change in thinking from the present belief that they should be hidden to make people think air travel was safe was in order. By way of example he pointed out that in a survey made by Greyhound bus as to why people rode buses instead of the airlines, 14.6 percent replied that it was because of lack of safety measures on the part of the airlines.

The need for refrigeration in the passenger cabins of pressurized aircraft was treated in a paper by Bernard L. Messinger, Lockheed Aircraft Co. In the main this was devoted to an analysis of why the air cycle is the most practical type of refrigeration for pressurized cabin transport aircraft. The reasons presented were: (1) The equipment is small and light and contained in a single integral unit; (2) It can be located in an accessible part of the aircraft which is remote from the cabin and incidentally releases valuable cargo space consumed by other systems; (3) Because the air itself is the refrigerant, small amounts of leakage are tolerable in this system, while in freon or alcohol systems any leakage is serious; (4) No heat exchanger is used to cool the air thus reducing the pressure drop requirements of the cabin fans and eliminating the need for cleaning coils; (5) Except for the coolant fan and its driving gear this unit could be considered a "one-moving-part" mechanism; and (6) The cycle is so simple that no highly specialized training program will be required for the mechanics who will service the equipment.

In a paper designed to show how fluorescent lighting best satisfies the general illumination objective of aircraft interior lighting, R. A. Rugge, transport engineering division, Curtiss-Wright Corp., made the following recommendations:

1. That general illumination of cabin interiors should be from indirect fixtures to provide for eye comfort by keeping the range in surface brightness as close to 10 to 1 as possible.

2. That fluorescent lighting best accomplished this indirect illumination because it provides uniform and desirable color lighting without objectionable contrasts or variations in light output; it requires only two-thirds of the electrical power used for an equivalent incandescent lighting system; and because the fluorescent lamp replacement cost is one-fourth the cost of incandescent lamps.

3. For the 20E aircraft the weight penalty for these benefits of fluorescent indirect lighting as compared to incandescent indirect lighting amounts to 20 percent or 3.2 lbs. for the general cabin illumination.

4. When new types of fluorescent lights and their accessories are available, it is recommended that designers of aircraft cabin interior lighting installations should consider the use of cold cathode instant starting fluorescent lamps in place of hot cathode slow starting lamps.

A fourth paper on "Aircraft Interiors from the Airline Viewpoint" was presented by R. W. Rummel, superintendent of engineering planning, Transcontinental & Western Air. This dealt principally with a type of study which the author said "can be of considerable assistance to both the manufacturer and the operator in arriving at a design which has the greatest possible utility and usefulness.

The final session of the three day meeting was devoted to navigation problems with Capt. S. P. Saint, American Airlines, presenting a paper on "A System Specification for Air Navigation and Traffic Control," and Capt. H. G. Gulbransen, Pan American Airways, a study of "Transoceanic Air Navigation."

Industry Urged to Develop Improved Plane Speedily

The aviation industry should produce "a minimum number of old-type planes to satisfy essential demand while moving full speed ahead to develop an improved plane," William A. M. Burden, Assistant Secretary of Commerce, told the American Society of Mechanical Engineers last fortnight in New York.

Stressed by Burden as necessary to avoid "disillusioned customers" were greater safety, through utilization of such "proven technical advances" as the tricycle landing gear and spin-proof airplanes; and greater utility, through improvements in aircraft take-off and landing performance which will make possible operations under cross-wind conditions on a single, shorter runway.

"The progressive adoption of technical improvements which will increase safety is of course the industry's responsibility," Burden said, "but government, in my opinion, should do everything it properly can to accelerate the trend."

He revealed that the CAA is asking for funds "to finance government-sponsored competitions and development contracts to accelerate the solution of problems which are important but which the industry for various reasons feels unable to tackle at the moment."

New GE Turbosupercharger Has Double Capacity of Old

A new turbosupercharger, known as the CH-5, was in large part responsible for the 500 mph level flight speed of the XP-47J, General Electric Co. revealed last fortnight. The new unit is designed to provide exhaust thrust, and 17 percent of the XP-47J's power at maximum speed comes from thrust from the turbosupercharger exhaust hood.

This thrust power, G-E engineers explained, is obtained primarily by mounting the shaft of the turbosupercharger horizontally instead of vertically, and by using a smaller exhaust opening.

Capacity of the CH-5 model used on the XP-47J, they added, is nearly twice that of the model used on the early Thunderbolts, but is only 3 lbs. heavier. It has a pressure ratio 93½ percent better than the earlier model, and raises by 2½ miles the altitude at which military horsepower can be maintained. The CH-5, they said, permitted reaching approximately 2,800 hp with the Pratt & Whitney R-2800-C engine at a pressure altitude of 34,000 ft. under war emergency power conditions.

Texas Engineering Leases Part of North American Plant

Texas Engineering & Manufacturing Co., a new company organized by Robert McCulloch, formerly division manager in charge of the Texas Division of North American Aviation, Inc., has leased one third of the North American "A" plant at Dallas, Tex., and has signed a contract with Fairchild Engine and Airplane Co. to build the Fairchild F-24 four place personal aircraft. It is also negotiating with Fairchild to build assemblies for the C-82 Packet.

UAL Architect Lists Twelve Principles For Air Terminal Design

Stating that we now find ourselves without a single first class airport terminal building in the United States, Albert Heino, United Air Lines architect, laid down 12 principles for terminal design at the first operations session of the SAE National Air Transport Engineering Meeting in Chicago.

These included: (1) Separation of facilities for the general public and those doing business with the airlines; (2) Separation of types of traffic by levels; (3) Give each airline direct control of its operations; (4) Keep distance from surface vehicles to aircraft to a minimum; (5) Coordination of aircraft and terminal design; (6) Special docks designed for the purpose to load, unload and service aircraft; (7) Separation of the ticketing function from public waiting areas; (8) A simple roadway system of approaches; (9) A building planned for expansion; (10) A building that is functional and expressive of air transportation; (11) Servicing facilities built in a fixed position where possible; and (12) Adequate facilities for the necessity and convenience of the general public.

In connection with the last named principle, Heino stressed the need for non-airline sources of revenue at airports in order to relieve the airlines of this burden. Other points made by Heino included a recommendation that the Post Office take-over handling of air mail at airports, and that the Railway Express Agency be done away with and a similar agency be created to take over the handling of air express.

Both Centralized, Decentralized Designs

Heino presented both centralized and decentralized terminal designs embodying the principles he had outlined.

Talking on air cargo, Lt. Col. David W. Long, Chief, Procedures Division, Priorities and Traffic, Air Transport Command, offered a sketch of what he believed a truly adequate cargo aircraft, as follows:

High wing design, at least two adequate loading doors, one at each end of the compartment and not less than 6x8 ft. in dimension, a substantial floor with skid strips and tie-down fittings stressed to a 1,000-lb. vertical pull and placed on a standard 24-in. grid, a clear cargo compartment centered on the CG to simplify weight and balance problems, and the ability to use to its fullest the cargo carrying capacity built into the modern aircraft.

Col. Long stated that experience with military gross take-off weights during the war has demonstrated conclusively that the commercial operator is penalized everytime he restricts his loads to the commercial limits imposed upon him. In this connection he suggested that the true aerial freighter carrying nothing but cargo might well be relieved of some of the more stringent weight restrictions imposed upon passenger operations, for safety reasons. Thus, he said, by permitting crew members to wear chutes, the take-off gross, with nothing to worry about except the safety of cargo, might well be kicked up stairs.

Engineering Preview

LYCOMING is working on a 5,000 hp "pancake type" reciprocating engine, and will reportedly be ready to test it as soon as it can get the necessary test equipment. It's a possibility for the Convair Model 37, although gas turbines appear a more likely choice. Studebaker also is understood to have been developing a similar type engine for the Army Air Forces.

The 15-20 passenger Beech feeder transport will be powered by four flat 350 hp Lycoming engines buried in the wing and driving two propellers.

The Lockheed, Northrop-Hendy and one of the Wright Aeronautical propeller driving gas turbines are understood to be in the 5,000 hp class, and Wright has a second design that is close to 10,000 hp. The Wright 5,000 hp model, incidentally, should be ready for testing in February.

Allis Chalmers is understood to have a high output gas turbine already flying in a Curtiss military aircraft. This particular model is understood to be a jet propulsion design with an axial flow compressor, but an adaptation for propeller drive is expected shortly.

A possible trend for aviation gas turbine development is seen in the Elliott gas turbine for marine use which is now being tested by the Navy. Here two compressor stages are used with cooling in between, and two separate turbine stages with combustion in between, resulting in a thermal efficiency of 29 percent.

Curtiss-Wright Propeller Division is working on a gas turbine propeller with swept back or scimitar shaped blades. The idea is to permit much higher rotation speeds without loss due to compressibility shock waves, similar to the swept back wing used in German rocket ships to permit higher Mach numbers without compressibility effects.

The use of dry ice to refrigerate perishables is adding to a cockpit ventilation problem that has been worrying pilots for some time. Recently one of the domestic airlines nearly lost a ship when fumes escaping from a package containing dry ice nearly suffocated the flight crew. The ultimate answer is improved cockpit ventilation, but until such time as that is solved by the manufacturers and designers, particular care should be taken in the use of dry ice for air shipment.

Convair is switching from single main wheels to a four-wheel truck landing gear similar to that on the Lockheed Constitution on its Model 37. Main difference will be that the forward and aft pairs of wheels on each gear will be independently sprung and pivoted. The trucks will retract sidewise into the wing just as the single wheels do on the B-36.

Another possible change on the Model 37 is a switch from pusher to tractor propellers dictated primarily by the fact that tractor type propeller driving gas turbines are expected to be available long before the pusher type. If the change materializes, the engines will probably continue to be located in the trailing edge and the propellers driven by extension shafts so as to avoid any major modification in wing design.

The fuselage and interior mechanical arrangements in Lockheed's Constitution are ideal, according to airline engineers. But major changes in the wing and greatly increased power will undoubtedly be required if it is to compete economically with the Boeing Stratocruiser and Convair 37. Present wing and power loadings are reported to result in a cruising speed of not much more than 250 mph.

Lockheed has developed a detachable cargo blister to add to the load capacity of the Constellation. It is attached with four cables and hung under the fuselage snug against the belly. It can be lowered to the ground for loading and unloading. While it will admittedly increase the Connie's payload range flexibility, operators are worried that rain will seep in around the edges during flight.

Aerojet is experimenting with Jato units not only as a means of decreasing take-off runs on heavily loaded four-engine transports, but also as a means of enabling some twin-engine types to meet certain CAA one engine inoperative requirements. In this connection the CAA is now testing a Jato equipped C-46 Commando to see if the jet assist will result in its meeting Part 04 requirements.

Boeing has not yet discarded its 431 series of twin-engined transports, but is reported to have changed from a high to a low wing design.

Wright Aeronautical is installing turbo-supercharged R-1820 engines in a C-54. It is believed that the same cruising power can be provided as in the present R-2000 installation at a weight saving of 750 lbs. The engines have been shipped to Rohr Aircraft which is building the nacelles.

Next step in the Sperry A-12 Gyropilot after tying it into either a VHF or microwave radar set-up for automatic instrument approaches and blind landings, will be a tie-in with the aircrafts braking system to hold a straight track on the ground. Some airline men believe that this could be done even more effectively by tying-in with reverse thrust propellers.

SYDNEY CARTER.

MANUFACTURING

Aircraft Industries Association Elects Cohu

Succeeds Wilson Who Moves Up to Chairman

LA MOTTE T. COHU, general manager and chairman of the board of Northrop Aircraft, Inc., was elected president of the Aircraft Industries Association at the annual meeting in Los Angeles Dec. 6. Cohu succeeds Eugene E. Wilson, vice chairman of United Aircraft Corp., who becomes chairman of the board of governors of AIA, succeeding Donald W. Douglas, president of Douglas Aircraft Co.

Other officers elected are: Robert E. Gross, president of Lockheed Aircraft Corp., v. p., Lawrence D. Bell, president of Bell Aircraft Corp., v. p.,; Harrison Brand, Washington, secretary-treasurer.

Members of the executive committee were named as follows: E. R. Breech, president, Bendix Aviation Corp., Alfred Marchev, president, Republic Aviation Corp.; William M. Allen, president, Boeing Aircraft Co.; Eugene E. Wilson and Donald Douglas.

W. T. Piper, president of Piper Aircraft Corp. was elected to the board of governors, succeeding Clayton J. Bruckner, president of Waco Aircraft Co. Re-named governors are: Victor Emanuel, chairman, Aviation Corp.; R. E. Gillmor, president, Sperry Gyroscope Co., J. H. Kindelberger, president, North American Aviation; Glenn L. Martin, president, Glenn L. Martin Co.; T. Claude Ryan, president, Ryan Aeronautical Co.; Guy W. Vaughan, president, Curtiss-Wright Corp.; J. Carlton Ward, Jr., president, Fairchild Engine and Airplane Corp.; Harry Woodhead, president, Consolidated Vultee Aircraft Corp.

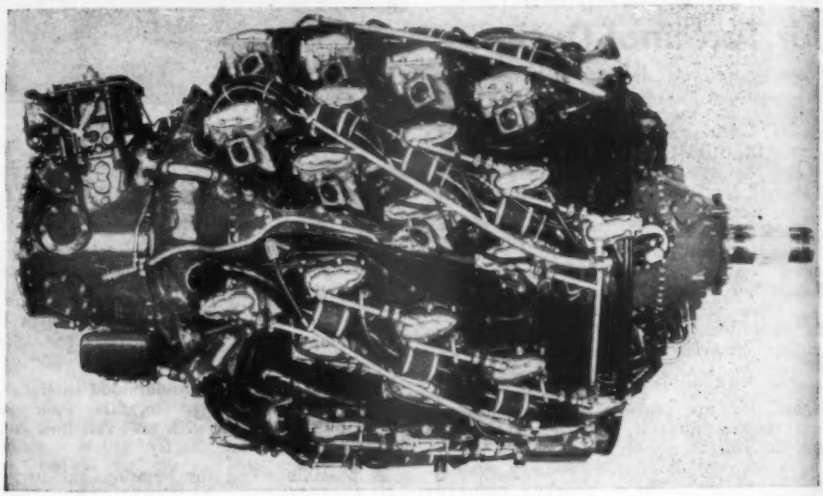
Most of the Association's full day session was devoted to the discussion of financial matters. Because some members were more economy minded than others, the adoption of a budget for the coming year was postponed and a special committee delegated to study the budget and bring in a report on a reduced budget in 30 days.

In a joint statement, Douglas and Wilson declared that despite the record contraction in aircraft production since V-J Day, the industry would be able to stay abreast of the many new scientific discoveries affecting aviation.

"As a result of America's victory in the war, employment in our industry has declined by more than 1,000,000 persons to the current total of less than 200,000," the statement said. "Government reports show that no other industry has experienced a shrinkage half as great. Yet, owing to wise planning and sound termination legislation enacted by Congress, the aircraft industry has weathered the first stage of this contraction and has thus managed to remain a vital arm of the national defense."

Steers Joins Gulf Oil

Sheldon B. Steers, former executive director of the Michigan Board of Aeronautics and president of the National Association of State Aviation officials, has accepted a position in the public relations department of Gulf Oil Co. and will center his work on aviation gasoline and oil sales promotion.



Wasp Major—This is Pratt & Whitney Aircraft's new 28-cylinder, four-row radial air-cooled engine, which delivers more than 3650 combat horsepower. It has been selected to power many of tomorrow's large transports, two of the Navy's crack fighters, two of the Army's biggest bombers, and at least six other military aircraft not yet publicly announced.

Northrop Organizes Aviation School To Teach Engineering and Maintenance

An aviation school for civilian students has been organized as a division of Northrop Aircraft, Inc. to start in the first quarter of 1946. Called the Northrop Aeronautical Institute, it will be operated in new, especially-designed buildings at Northrop Field at Hawthorne, Calif.

Designed to fill a growing need in the constantly growing aviation industry, the Northrop Aeronautical Institute will offer both home study and resident courses in aeronautical engineering and airline maintenance. Extension courses, based on original new methods of home study presentation, will be offered in January, while the resident school will hold its first classes in March.

Director of the Institute is James L. McKinley, formerly an administrative staff assistant at Northrop, who has had wide experience in technical fields since 1932. He organized and directed trade and industrial schools before joining Northrop in June, 1942, to organize a training program through which Army Air Force mechanics were taught maintenance of the Northrop Black Widow P-61 night fighter.

Under McKinley, the Institute's directorate and instruction staff will be made up of engineering, production, service and training experts with many years of prewar experience.

Two new buildings and a large field hangar formerly used by the Army will house the Institute and will include modern classrooms, laboratories and machinery.

Graduates of the school will be qualified to fill the gap in "top level" aircraft technicians, engineers and administrators, now needed by the airframe manufacturers, the airlines and throughout the industry, McKinley said.

"Since the school is to be operated on the Northrop home grounds and air field at Hawthorne, students will have the advantage of the company's 'know how' in engineering and aircraft design," McKinley continued.

A placement bureau will be operated in connection with the Institute to aid graduates in obtaining positions. Aircraft mechanic and aircraft engine mechanic courses will conform to Civil Aeronautics Administration regulations. While the Institute will specialize in aeronautical engineering and an airline maintenance course, the latest in aircraft engineering and design, including courses in jet propulsion, radar, production sciences and administration, will be added.

Doolittle Joins Shell Oil As Vice President Jan. 1

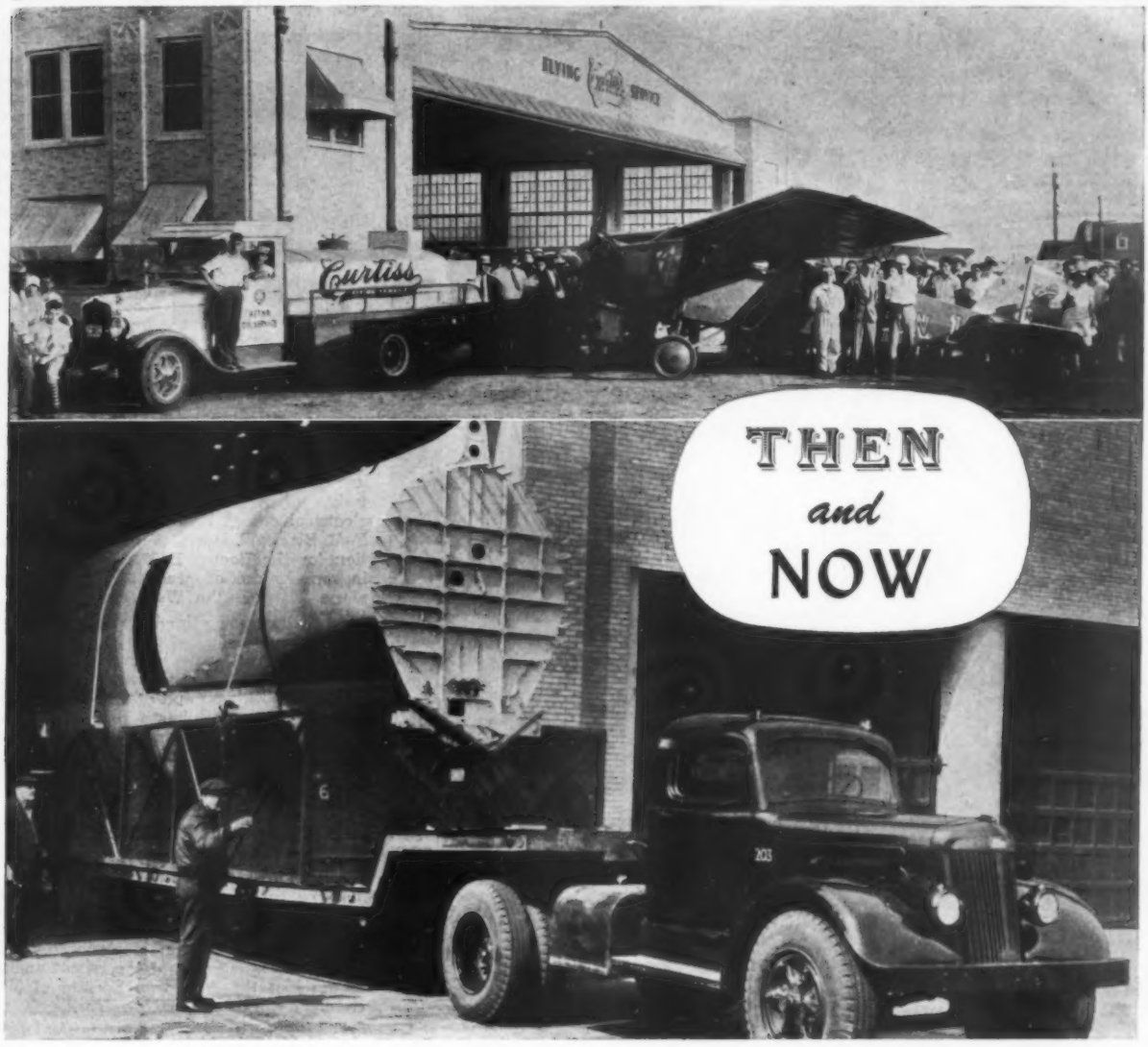
Lieut. Gen. James H. Doolittle, former commander of the 8th Air Force, will return to Shell on Jan. 1, 1946, as vice-president of Shell Union Oil Corp., and will be a nominee for the board of directors at the next stockholders' meeting, it was announced at the corporation's offices today.

He will make his headquarters in New York, where his duties, in addition to general corporate responsibilities, will include coordination of the aviation interests of the Shell companies in the U. S. and assistance in the world-wide aviation activities of the Shell group of associated companies.

Plan New Fletcher Plant

The Fletcher Aviation Corp., which now has locations in Pasadena and Burbank, will consolidate its activities in a new $250,000 plant which it will build in Ontario, Calif. The new plant will be constructed on a 20-acre site adjacent to the Ontario Municipal Airport. This acreage has just been released by the Ontario Army Airfield.

WHITE KNOWS TRANSPORTATION *FROM THE GROUND UP*



LEADERS IN PLANE PRODUCTION used White trucks all during the war to provide fast, dependable inter-plant transportation and, thus, speed their schedules tremendously. In the lower photograph here, for instance, a White is transporting a center section of a C-54 Commando, as part of the routine procedure at the airplane division of the Curtiss-Wright Corp., at Buffalo, a famed name in aviation which has used White trucks for years, as the top photo shows.

Whether your truck problems concern the transport or production phases of aviation, you can get authoritative information from White. Your inquiry will receive the attention of men who are interested in aviation and who know "transportation from the ground up."

★ White

THE WHITE MOTOR COMPANY • Cleveland

FOR MORE THAN 45 YEARS THE GREATEST NAME IN TRUCKS

Van Tuyl Engineering Co. Reorganized; Now Vantco

Reorganization of the Van Tuyl Engineering Co. into the Vantco Corp. of Los Angeles for an expanded peacetime operation has been announced by John Brown, president.

Brown

Largest organization of its kind with headquarters on the West Coast, the company engages in design engineering, industrial engineering, tooling and research, specializing in aircraft work. It has a branch office in Detroit and recently opened a new branch in Mexico City.

During the war it devoted more than 600,000 man hours to warplane engineering, performing a variety of specialized tasks which ranged from hydraulic and electrical design layouts for the Northrop P-61 Black Widow to a life raft installation for the Boeing B-29. It had a hand in some phase of practically every warplane built on the West Coast from the Boeing B-17 to the Lockheed and Ryan jet planes.

The company now is engaged in engineering work on postwar projects at Douglas, Lockheed and other Pacific Coast manufacturers and has a bigger back-log of orders than during the war because of the shortage of engineers in the manufacturing plants.

Researchers Dominate ASME Annual Meeting in New York

Completion of flights 99% of the time as against the present 91% average was predicted by Dr. C. C. Furnas, director of research for the airplane division, Curtiss-Wright Corp., at the recent annual meeting of the American Society of Mechanical Engineers in New York.

Frederick K. Teichmann, professor of aeronautical engineering, New York University, told the gathering that the application of biochemics to airplane design—adapting the machine to the man, will result in greatly increased safety as well as more comfort and efficiency.

Lt. Gen. Ira C. Eaker, deputy commander, Army Air Forces, told the meeting that development of the atomic bomb makes offensive and defensive airpower in immediate readiness the primary requisite of national survival.

Dr. William F. Durand, former chairman of the division of engineering and industrial research, National Research Council, predicted that the jet propulsion engine has a brilliant and impressive future before it, but warned that future development of jet propulsion for aircraft use demands continuing detailed research into design and construction both of the jet engine itself and on the aircraft on which it is to be used at speeds equal or exceeding the speed of sound.

The use of jet propulsion in commercial aircraft was predicted in a paper by S. R. Puffer and J. S. Alford of the supercharger division of General Electric Co.

Manufacturing Personnel

Harwood Bertrandias Guerin

Lt. Col. Ludlow King of the Chemical Warfare Service has been appointed manager of the Washington, D. C., office of Owens-Corning Fiberglas Corp.

William C. Gage, formerly field service manager of Allison Division, General Motors Corp., has been appointed aviation sales manager. The division has opened a Washington, D. C. office under **Guildford C. Pearce.**

K. J. Kernochan, associated with Goodyear Tire & Rubber Co. since 1917, has been named West Coast district manager of the company's aviation products division.

Henry E. Guerin, associated with Donald W. Douglas of Douglas Aircraft Co. since 1920 and inventor of the Guerin process, which employs a thick pad of rubber and single low-cost die to form airplane parts under hydraulic pressure, will retire from the company January 1. **Maj. Gen. Victor E. Bertrandias**, formerly vice president of Douglas who has been in the Army since 1942, has returned to head up export sales.

Robin A. Bell, who headed wartime sales of aircraft heaters for Surface Combustion Corp., has been named sales manager of the company's newly formed Janitrol Aircraft Heater Division.

Capt. Al G. Handschumacher, assistant to the chief of the Aeronautical Equipment Section, Procurement Division, Wright Field, has been named sales engineer of Lear, Inc.

O. P. Harwood, formerly head of Region I of the CAA, has been appointed president of Gillies Aviation Corp.

Pearce Gage Bell

Sperry Research Director Named V. P.-Engineering

Dr. Carl F. Frische, chief research director of the Sperry Gyroscope Co., has been elected vice president — engineering. In charge of research for Sperry, Dr. Frische worked on precision instrument developments for the armed forces previous to and during the war, and made a number of outstanding contributions to aviation, notably the development of automatic pilots, bomb sights and instrument landing system.

Frische

Harry F. Vickers of Detroit, president of Vickers, Inc., and a vice president of Sperry, has been elected a director.

Smaller Airlines Moving Into Profit Column

Investment House Makes Observation in Study

FOR THE PEACETIME era just beginning, the profits prospects of airline operators seem broadly encouraging, "but that is not to say that there will be an uninterrupted expansion of earning," says a study, "Airlines 1945," prepared by Merrill Lynch, Pierce, Fenner and Beane, New York investment house.

"Broadly viewed," the study says, "domestic air transporters as a group may show a somewhat reduced ratio of net to gross revenue in nearby periods, but can be expected to show much better earnings than their pre-war experience."

One of the factors helping the industry-wide picture has been the gradual movement into the profit column of numerous smaller companies, many of which, the study says, "barely broke even in the aggregate during 1941." This group had a net income of better than three million dollars during 1944.

The study pointed out that while numerous smaller companies will be able to lift their profits well above recent levels in the next stage of expansion, there is no basis for believing that individual lines will show uniform earnings progress—primarily because of different competitive positions and future route awards.

"Since common share dividends will be generally small in this (airline) industry for a considerable period ahead, airline equities do not provide immediate appeal as stable income-producing holdings," the study says.

"They do offer the opportunity to participate in one of the most promising growth industries, and for long range appreciation potentialities, representative stocks will continue to attract a wide public interest."

The study embraces a comprehensive history of the operations and earnings of the air carriers and projections for future volumes of passenger, cargo and mail traffic. The outlook for 18 individual companies also is included.

To meet expansion needs, the industry, including new funds obtained since the first of the year, had something like $200 million in working capital and equipment purchases funds in the early fall of 1945, the study says.

"Up to now most additional funds required have been through equity financing. It is now apparent that financing for the future will also include a substantial amount of debt and preferred stock."

TWA Arranges Long-Term Credit With Equitable

Described by Jack Frye, president of Transcontinental & Western Air, as "a pioneering step in establishing a pattern for future airline financing," the first long-term unsecured credit to a major airline was arranged last fortnight with the purchase by Equitable Life Assurance Society of the U. S. of $30,000,000 of 10-year 3% debentures of TWA at par. Most of the proceeds of the credit, arranged through Merrill Lynch, Pierce, Fenner & Beane, will be used for the purchase of 36 Constellations. Each craft costs about $750,000 and is rated by the company to have an annual earning power of $2,650,000 gross.

The loan's terms permit TWA, under certain conditions, to incur additional current or funded indebtedness, or to mortgage assets. A sinking fund retiring $2,000,000 annually beginning on June 1, 1947, will be established, with TWA having option of retiring $4,000,000 a year. The Commercial National Bank and Trust Co. of New York is named trustee. The indenture may be modified by TWA and the trustee with consent of the holders of two-thirds of outstanding debentures.

National Declares $2 Dividend

Announcing its intention of becoming a "regulated investment company" under provisions of the Internal Revenue Code, National Aviation Corp. has also declared a $2 dividend, payable Dec. 21 to stock of record Dec. 10. This approximates $1.61 a share and, according to the company, will amount to a capital gain dividend which stockholders can consider a long-term capital gain in their tax reports. In general, regulated investment companies do not have to pay appreciation taxes on capital gains dividends. On the new type of company basis, National stock, as of Nov. 27, had a $30.10 per share liquidating value, before deducting estimated taxes on unrealized appreciation This is comparable with $26.61 before estimated tax as of Sept. 30, and $20.70 as of Dec. 31, 1944. A dividend of 25c was paid on July 25 and 75c in 1944.

Eastern's 9-Month Report

Net profit of Eastern Air Lines for the first nine months of 1945 increased 91% compared with the like period of 1944. After providing $4,916,000 for federal income and excess profits taxes, Eastern had a net profit of $1,375,164.27, or $2.30 per share. These earnings compare with the net profit of $721,684.21 or $1.21 per share in the first nine months of 1944. Despite two reductions in passenger fares, 6⅔% on May 1, 1945 and an additional 7% on August 20, 1945, plus a reduction in mail rates from 60c per ton mile to 32c per ton mile, operating revenues of the company increased 49% to $19,147,816.55. Operating expenses increased by $3,688,608.96 or 39%, and revenue miles flown by the company's planes increased to 62% to a nine months total of 19,581,898 revenue miles. As of September 30, 1945, current assets were $25,770,883.25 of which $21,359,464.28 was in cash or government bonds.

NWA Shares Increased

Northwest Airlines stockholders recently voted to increase the authorized number of shares from 600,000 to 1,000,000 to provide for expanded capital requirements in the future. President Croll Hunter told the stockholders that the next step in the company's equipment expansion program would be acquisition of still larger four-engine planes which would carry from 80 to 100 passengers. Negotiations for planes of this type are now going on. Directors of Northwest recently re-elected are Hunter, E. I. Whyatt, vice president-treasurer, and A. E. Flom, secretary and general counsel, T. E. Irvine and Edwin White, all of St. Paul; Robert M. Hardy of Yakima, Wash.; Joseph T. Johnson of Milwaukee, Wis.; L. M. Leffingwell of Minneapolis; Alonzo Petteys of Brush, Colo.; William Stern, of Fargo, N. D., and Colonel William Tudor Gardiner of Boston.

Fairchild Dividend on Common

Fairchild Engine and Airplane Corp. has declared a dividend of 20c per share on the common stock, and a semi-annual dividend of $1.25 per share on the $2.50 cumulative preferred stock (without par value, convertible prior to May 1, 1955). Each share of preferred is presently convertible, at holder's option, into 14 shares of common. The common dividend is payable Dec. 29 to stockholders of record Dec. 17. The dividend on preferred stock will be paid Jan. 1 to stockholders of record on the same date. Common stock dividend is the third paid by the Corporation. Dividends of 20c per share were paid in December of 1943 and 1944. J. Carlton Ward, Jr., president, indicated that Fairchild's sales and earnings for 1945 are expected to be below 1944's. It has a backlog, however, of over $80,000,000, major portion being government orders for the Packet.

Garrett Annual Report

With sales totaling $45,440,450.89, the Garrett Corp. and its wholly owned subsidiary, AiResearch Manufacturing Co. of Arizona, Inc., showed a net profit of $1,074,955.10, equal to $2.05 per share, after provision of $700,000 for postwar adjustments, according to the report of J. C. Garrett, president, for the year ended June 30, 1945. The Garrett Co. operates under three divisions, AiResearch Manufacturing Co., Airsupply Co., and Garrett Supply Co.

Advertisers In this Issue

Over - the - Counter Securities

(Courtesy Merrill Lynch, Pierce, Fenner & Beane)

Airlines	November 24 Bid	November 24 Asked	December 1 Bid	December 1 Asked
All American Aviation	9⅝	10	11¼	11⅝
American Airlines, Pfd.	called at 106 1/15/45			
American Export Airlines	90	92	91½	93½
Braniff	27⅞ sale		32⅞ sale	
Chicago & Southern common	29½	30	33	34
Chicago & Southern warrants	21¾	22½	23	24
Continental Air Lines	23¼	24¼	25½	26½
Delta Air	60	62	64	66
Inland Airlines	8½	9½	9	9¾
Mid Continent	18½	19	20¼	21
National Airlines	31⅞ sale		36¼ sale	
Northeast Airlines	20¾ sale		23½ sale	
Manufacturers				
Aeronca common	7⅝	8	7⅝	8
Air Associates	16	17	17⅛	17½
Aircraft & Diesel	2⅛	2½	2½	2¾
Aireon Mfg.	10⅝ sale		13⅞ sale	
Airplane & Marine	13½	13¾	27	29
Central Airports	1½	2¼	1½	2¼
Columbia Aircraft	1 bid		1⅛ bid	
Continental Aviation	2¾	3¼	2¾	3¼
Delaware Aircraft Pfd.	....	....	....	....
General Aviation Equip.	5⅜	5⅞	5⅝	6⅛
Globe Aircraft	4½	4¾	4½	4¾
Harlow Aircraft	1¼	1½	1⅛	1⅜
Harvill Corp. common	3⅜	3⅝	3⅜	3⅝
Interstate Aircraft & Engine	14½	15½	18½	20
Jacobs Aircraft	4¼	5¼	4¼	5⅛
Kellett Aircraft	3	3¼	4¼	4½
Kinner Motors	2¼ bid		3	3¼
Liberty Aircraft common	18⅝	19⅛	20¼	20¾
Menasco Mfg.	4¾	4⅞	7¼	7⅝
Northrop Aircraft common	13¼ sale		14⅜ sale	
*Pacific Airmotive Corp.	8⅞	9⅛	8⅝	9⅛
Piper Aircraft common	8⅜ sale		8⅛ sale	
Piper Aircraft Pfd.	80 bid		80 bid	
Rohr Aircraft	12½	13½	12¼	13¼
Standard Aircraft Products	2.80	3.00	3⅝	3⅞
Taylorcraft common	3⅝	4	4¼	4⅝
Taylorcraft Pfd.	called at 11 7/30/45			
Timm	2⅜	2⅝	2⅝	2¾
United Aircraft Products Pfd.	24¼	24¾	28	28½

* Formerly Airplane Mfg. & Supply Corporation; name changed March 1, 1945.

Classified Advertising

B.S. DECREE—RATED PILOT. Captain U. S. Army Reserve; 1500 hours 4-engine time; 1130 hours first pilot time on C-54 trans-Atlantic passenger run; 190 hours actual instruments; 500 hours night; qualified on 17 different types aircraft; Commercial License to 6600 H.P. and C.A.A. instrument rating; sales experience. Desires position in Aviation industry. Box 465 American Aviation, American Building, Washington 4, D. C.

FEEDER AIRLINE APPLICANTS. Experienced man who has built three extensive exhibits showing Public Convenience and Necessity, operational plan, cost details, etc., for presentation to proper Governmental agency, available with qualified assistance to build cases for feeder applicants in certain areas of nation. Can furnish sample exhibits of work which speak for themselves. Write Box 457, American Aviation, American Building, Washington 4, D. C.

WATCHES WANTED—Broken or usable—All kinds, even Ingersolls. Highest prices paid for jewelry, rings, spectacles, gold teeth, etc. Cash mailed promptly. Write for free shipping container. Lowe's, Holland Bldg., St. Louis 1, Mo.

ANALYSTS WANTED. Progressive, intelligent junior and senior analysts wanted for market and economic research work relative to air transport industry. State age, experience, education and salary desired. Will be obliged to live in the Washington area. Excellent opportunity for career. Send replies to Box 464, American Aviation, American Building, Washington 4, D. C.

WANTED a pilot with some air line pilot experience to represent a well-established employee-representing organization. This is not a flying position. Executive work only with some travel. Employer-employee relations handling ability necessary. Veteran preferred. Box 449, American Aviation, American Building, Washington 4, D. C.

AUTOMATIC LANDINGS!

. . . made possible with Sperry Model A-12 Gyropilot*

WITH suitable Runway Localizer and Glide Path Control equipment, the Sperry Model A-12 Gyropilot makes possible automatic landings under all conditions of visibility.

This Sperry Gyropilot takes over completely the task of seeking and adhering to the beam on the approach and lands the plane unerringly . . . the most exacting function any automatic pilot can perform.

The human pilot with the A-12 Gyropilot has complete gyro-stabilized control of his aircraft at all times...

- Perfectly banked turns at any air speed—automatically
- Gyrosyn Compass directional control—continuously slaved to the magnetic meridian
- Automatic holding of any selected altitude

- Automatic trim of elevator controls regardless of changing load conditions
- Utmost in passenger comfort—precise control and elimination of over-control, "hunting," and "wallowing"
- Electrical and mechanical interlocks—automatically insuring proper manual operation
- Automatic and instantaneous synchronization—no matching of pointers or other indications

These and other features of the new Sperry A-12 Gyropilot introduce a new era in automatic flying. Write our Aeronautical Department for further information.

*TRADE-MARK REG. U. S. PAT. OFF.

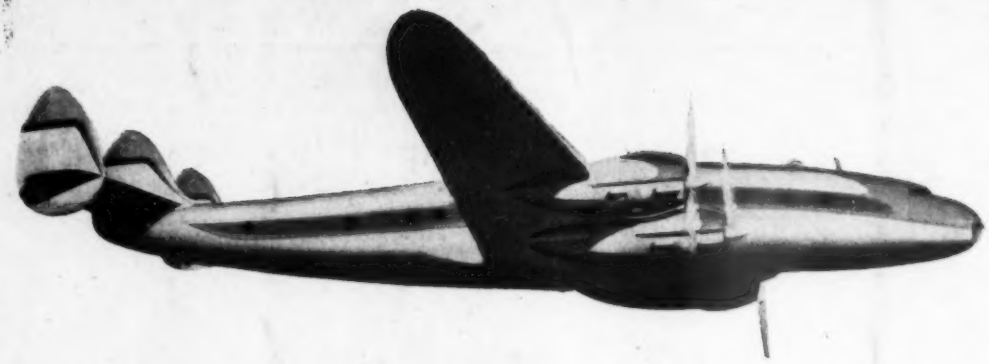
SPERRY GYROSCOPE COMPANY, INC., GREAT NECK, N. Y.

★

Division of the Sperry Corporation

LOS ANGELES • SAN FRANCISCO • SEATTLE • NEW ORLEANS
CLEVELAND • BROOKLYN • HONOLULU

GYROSCOPICS • ELECTRONICS • RADAR • AUTOMATIC COMPUTATION • SERVO-MECHANISMS



New World Standard

The claim is proved. Lockheed Constellations will bring new world standards in air transportation to every country on every continent. In regular scheduled service first on these great airlines:

AMERICAN AIRLINES OVERSEAS

EASTERN AIR LINES

FRENCH GOVERNMENT AIRLINES

ROYAL DUTCH AIR LINES (KLM)

NETHERLANDS INDIES AIRLINES (KNILM)

PAN AMERICAN WORLD AIRWAYS

PAN AMERICAN-GRACE AIRWAYS (PANAGRA)

TRANSCONTINENTAL & WESTERN AIR (TWA)

THE NEW AIRLINE STANDARD

Lockheed Constellation

Look to Lockheed for Leadership — *Years Ahead in the Science of Flight*

American Aviation

The Independent Voice of American Aeronautics

JANUARY 1, 1946

Air Power in Peace

IT IS NOT EASY to sell or scare the majority of Americans into a peace-time program of taxation for combat air power. Yet all thinking Americans realize that this country must be strong in the air.

The national problem today is how to continue to keep the United States foremost in the air and yet satisfy the average citizen that he is getting real value for his money instead of seeing his money expended for "practice war."

Forthrightly Review

The solution may be found in the same formula by which our aviation was developed in the lean years when our military air forces were starved for funds. It was the formula by which commercial aviation was the "proving ground" for the military—it was the formula by which manufacturers were stimulated to build seats for passengers in the early mail planes and by which air transport companies were paid additional funds for two-way radio and other advanced features of air transportation.

American air power in the prewar years was developed largely through methods which gave the taxpayer a break. It can be maintained in the future through the same method. There is nothing to indicate that the American people will continue to pour out vast sums for pure military strength which has no other objective than stand-by power. The emotions of war are over.

In short, what we need from now on is *convertible air power*—air power that has public benefits but which has its roots in national defense. And in achieving this goal the Air Power League can play a very important role.

How can this convertible air power be obtained? Simply by making it possible for the air transport companies to broaden the base of their activities from that of a purely commercial operating economy to a base embracing more scientific and research cooperation, more maintenance and operating capacity, pilot training and skill, experimentation—and better service to the user of the mails.

The man who buys air mail or first class postage can receive not only an improved mail transportation service but a dividend, as well, in stand-by air power. The commerce of the nation can be speeded up by faster and better-timed mails. The Army and Navy will benefit tangibly by having the airlines as proving grounds and testing laboratories as they were before the war.

(Turn to page 6)

President of Delta Air Lines

C. E. Woolman, operating head of Delta Air Lines for 20 years, has been promoted from vice president and general manager to president and general manager. C. E. Faulk, president since 1935, has become chairman of Delta's board of directors.

In This Issue

25c

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